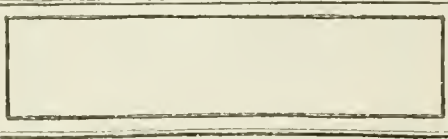
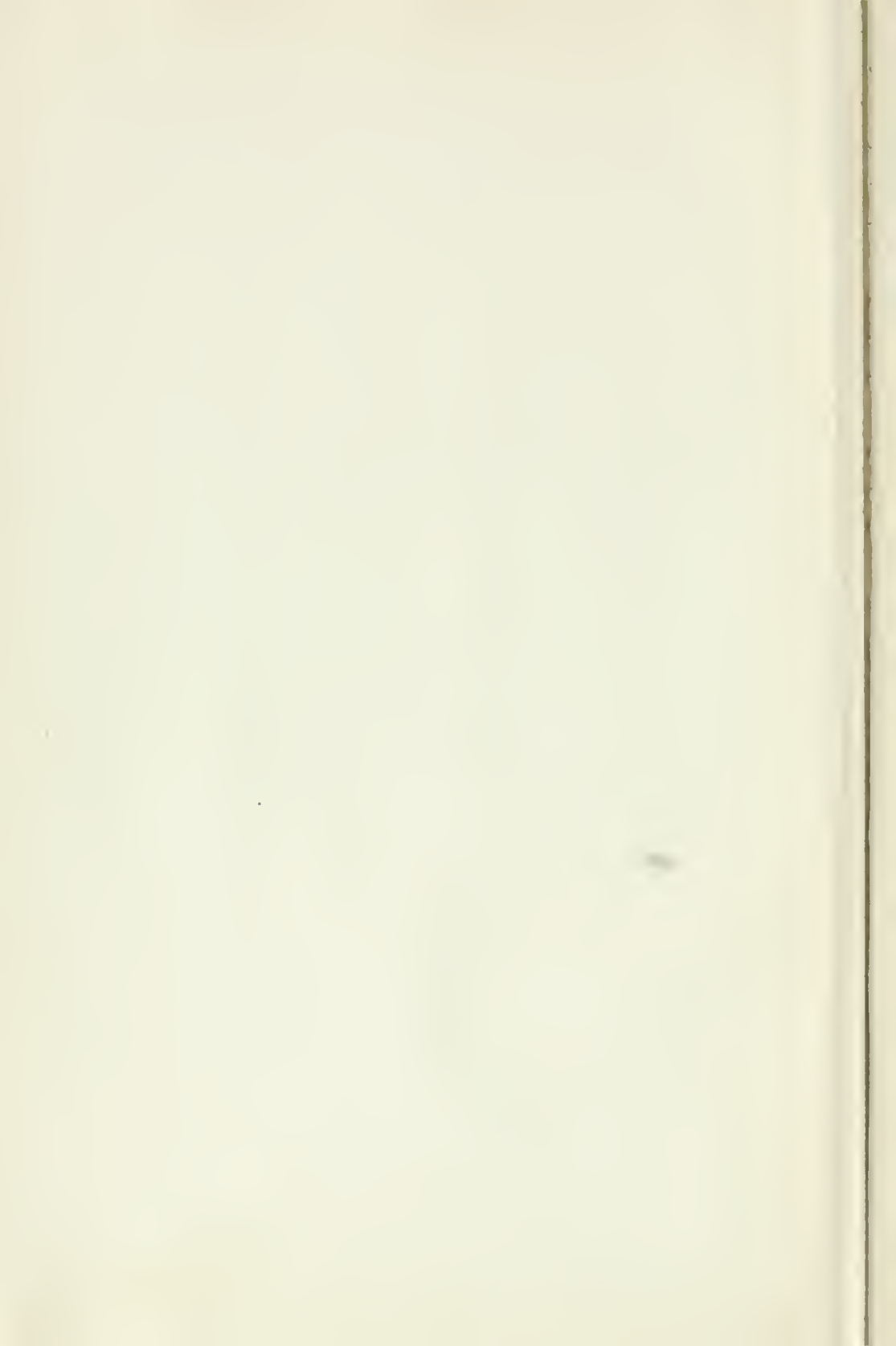


EX LIBRIS









THE
ELECTRIC RAILWAY
PROBLEM

By DELOS F. WILCOX

Municipal Franchises, in Two Volumes. (710 and 885 pages)

Fundamental Planks in a Public Utility Program. (12 pages)

Experts, Ethics and Public Policy in Public Utilities. (16 pages)

Financial and Administrative Preparation for Municipal Ownership. (12 pages)

Solving the Traction Problem: The Problem from the Public Point of View. (20 pages)

Problem of Reconstruction with Respect to Urban Transportation. (16 pages)

Service at Cost in Local Transportation. (8 pages)

The Transit Problems of New York City. (28 pages)

Working Capital in Street Railway Valuation. (24 pages)

What Shall We Do With The Street Railways? (4 pages)

ANALYSIS OF THE ELECTRIC RAILWAY PROBLEM

REPORT TO THE FEDERAL ELECTRIC RAILWAYS COMMISSION WITH SUMMARY AND RECOMMENDATIONS, SUPPLEMENTED BY SPECIAL STUDIES OF LOCAL TRANSPORTATION ISSUES IN THE STATE OF NEW JERSEY AND THE CITY OF DENVER, WITH NOTES ON RECENT DEVELOPMENTS IN THE ELECTRIC RAILWAY FIELD

BY

DELOS F. WILCOX, PH. D.

CONSULTING FRANCHISE AND PUBLIC UTILITY EXPERT

CHIEF OF THE BUREAU OF FRANCHISES OF THE PUBLIC SERVICE COMMISSION FOR THE FIRST DISTRICT, STATE OF NEW YORK, 1907-1913; DEPUTY COMMISSIONER OF THE DEPARTMENT OF WATER SUPPLY, GAS AND ELECTRICITY CITY OF NEW YORK, 1914-1918

PUBLISHED BY
THE AUTHOR
NEW YORK CITY

1921

H. E. ...
VII

PRINTED AND BOUND BY
AFFERTON PRESS
NEW YORK

415265

no. 100
10000000

TO THE MEMORY OF
STILES P. JONES

In his report, "Financial Mismanagement of Street Railways," submitted as a part of the employes' case, Mr. Jones placed before the Federal Electric Railways Commission an illuminating and unanswerable indictment of the fatuous financial policy that has all but wrecked the street railway as a public utility.

445265



PREFACE

On May 15, 1919, the Secretaries of Commerce and Labor submitted to the President a joint recommendation for the appointment of a Federal commission to study and report upon the electric railway problem. During the war the traction companies had been caught between the upper and the nether millstones. The increase in the cost of labor and materials had been sharp, sudden and irresistible. The maximum five-cent fare, fixed by contract and by custom, had stood in the way of a prompt increase in revenues to meet the increase in the costs of the transportation service rendered. Through the National War Labor Board, the Federal Government had taken a hand in compelling the street railways to pay to their conductors and motormen what at that time seemed an enormous wage. While the nation was engaged in its gigantic struggle, continuity of street railway service had to be maintained at any price. The companies paid the wage bills and appealed to the Government to raise the fares. Failing to bring about direct interference either by Congress or by the President through some hoped-for exercise of war powers, they had to content themselves with trying to get favorable publicity and helpful recommendations to the state and local authorities. They sought, at the very least, the appointment of a Presidential commission to serve as a sort of national sounding-board before which they could beat the tom-tom and attract public attention everywhere to their financial distress and to the inadequacy of the five-cent fare.

On May 31, 1919, the Federal Electric Railways Commission was appointed, consisting of eight members representing various interests, as follows:

Charles E. Elmquist, president and general solicitor of the National Association of Railway and Utilities Commissioners.

Edwin F. Sweet, Assistant Secretary of Commerce, and former mayor of Grand Rapids, Mich., representing the Department of Commerce.

Philip H. Gadsden, vice-president of the United Gas Improvement Company, and president of the Charleston Consolidated Railway and Lighting Company, representing the American Electric Railway Association.

Royal Meeker, Commissioner of Labor Statistics, representing the Department of Labor.

Louis B. Wehle, general counsel of the War Finance Corporation, representing the Treasury Department.

Charles W. Beall, of Harris, Forbes & Company, representing the Investment Bankers Association of America.

William D. Mahon, president of the Amalgamated Association of Street and Electric Railway Employes of America, representing that association.

George L. Baker, mayor of Portland, Ore., representing the American Cities League of Mayors.

The Commission organized by electing Mr. Elmquist chairman and Mr. Sweet vice-chairman. Mr. Charlton Ogburn, who had served as chief examiner for the National War Labor Board in street railway controversies, was selected as executive secretary. At the time of its appointment, the Commission received from the President's war fund an appropriation of \$10,000, and that was all of the public money ever made available for its work.

The Commission held one public hearing in New York in June and a series of hearings in Washington, extending, with interruptions, from July to October. The American Electric Railway Association was represented by able counsel, and its case, prepared by a special Committee of One Hundred, was laid before the Commission in an orderly and effective way. Later on, the Commission invited public service commissioners, mayors and some private individuals to come to Washington at their own expense and present the public side of the problem. Among the rest, I was invited. My testimony was given at considerable length on August 13th. Under the circumstances, the case for the public was necessarily presented in an uncoordinated and somewhat fragmentary way. In October the Amalgamated Association of Street and Electric Railway Employes put in an elaborate and carefully prepared case on behalf of organized labor.

In its report to the President, dated July 28, 1920, signed by all of its members, the Commission said: "*At the conclusion of the final public hearing the Commission engaged the services of Dr. Delos F. Wilcox to aid in analyzing the testimony gathered and to make suggestions to the Commission with reference to its report. Dr. Wilcox made a very comprehensive analysis of the evidence, containing 823 pages of matter. The Commission regrets that it cannot publish this analysis with the proceedings, since it represents a complete and masterful study of the whole electric railway problem.*"

The inability of the Commission to publish my analysis as a part of its Proceedings is the occasion for its separate publication in this book. The Commission's Report and the Proceedings, containing all the testimony and certain supplementary documents, were published and distributed at the expense of the American Electric Railway Association, though I am advised that the Government Printer had some additional copies run off, which he is disposing of at cost. With respect to the publication and distribution of its Proceedings, the Commission said: "*A complete report of the testimony will be printed, together with this report, and will be placed in the Congressional Library in Washington and other leading libraries in the country; with all regulatory commissions, and with the mayors of the leading cities of the United States.*"

In the belief that my Analysis ought to be available as a reference work along with the Report and Proceedings of the Commission, I decided to undertake its publication in the present form.

In Appendix A, I have included a review of Local Transportation Issues in New Jersey, prepared immediately following the conclusion of my report to the Commission. The New Jersey situation had been referred to at considerable length in the Testimony. The Public Service Railway lines ramify over the

state of New Jersey from Newark as the center, reaching 140 municipalities ranging in population from 414,000 down to a few hundred. The Public Service Corporation of New Jersey, controlling through its subsidiaries the street railway, gas and electric services of two-thirds of the people of a great urban state, typifies the public utility problem for the entire country. In the review of the Public Service Railway proceedings most of the complex problems which were brought to the attention of the Federal Electric Railways Commission may be seen in cross section.

In Appendix B, I am including a report on Certain Aspects of the Traction Problem of the City of Denver, prepared in October, 1920, for the Denver Commission of Religious Forces, and hitherto unpublished. In it I have discussed a typical street railway valuation problem and have analyzed a typical service-at-cost plan worked out by the Denver Tramway Adjustment Committee of Fifty-Five during the very time when the Federal Electric Railways Commission was busy with its investigation.

The Denver plan was defeated at the polls by a narrow vote. Its significance lies in the fact that the Federal Electric Railways Commission recommended service at cost as a solution of the electric railway problem, and service at cost has been taken up as the program of the street railway companies themselves. The rejected Denver plan is typical of what may be expected through the active cooperation of the leading business interests of any urban community with a utility in financial distress upon the assumption that the solution of the problem must in any event be found in continued private ownership and operation.

My analysis of the evidence presented to the Federal Electric Railways Commission confirmed me in the opinion that no permanent solution of the electric railway problem, consistent with the public interest, is possible except in public ownership. I advised the Commission that the most important thing to be done at the present time is frankly to recognize the necessity of public ownership and operation as an ultimate policy and to concentrate effort upon plans for the removal of obstacles in its way and for the assurance of its success when undertaken. The Commission, not concurring in this view, put forward the service-at-cost plan as a means of resuscitating and prolonging the life of private ownership and operation. In these kaleidoscopic days the financial condition and public relations of any particular street railway are likely to change almost overnight. But, for all that, the underlying problems remain the same, and the need for a permanent policy, based upon the recognition that the public interest in urban transportation is paramount, continues to be imperative regardless of temporary shifts in the condition and relations of particular companies.

The final solution of the problem, as I see it, lies in the full recognition of public responsibility for local transportation and in the acceptance by the community of the primary obligation of self-help in the performance of this all-important community service.

DELOS F. WILCOX.

Elmhurst, Long Island, July 11, 1921.

TABLE OF CONTENTS

CHAP.	PAGE
LETTER OF TRANSMITTAL	xv
I. THE STREET RAILWAY AN ESSENTIAL PUBLIC INDUSTRY	1
II. RESTORATION OF ELECTRIC RAILWAY CREDIT A FUNDAMENTAL NECESSITY....	6
III. FUNDAMENTAL IMPORTANCE OF LABOR AS A FACTOR IN STREET RAILWAY OPERATION	9
IV. CREDIT AND COOPERATION THE COORDINATE NEEDS OF THE ELECTRIC RAILWAYS	15
V. CONDITIONS IN ELECTRIC RAILWAY OPERATION NORMALLY FAVORABLE TO CREDIT	16
VI. CONFLICTING EVIDENCE AS TO AMOUNT OF NEW CAPITAL REQUIRED ANNUALLY IN THE ELECTRIC RAILWAY INDUSTRY	21
VII. AMOUNT OF NEW CAPITAL REQUIREMENTS NOT CLEARLY SHOWN, BUT NECESSITY FOR RESTORATION OF CREDIT PROVEN	31
VIII. WHY HAS ELECTRIC RAILWAY CREDIT BEEN LOST?	35
IX. OVERCAPITALIZATION A CAUSE OF THE FAILURE OF CREDIT	36
X. NEGLECT TO AMORTIZE EXCESS CAPITALIZATION	43
XI. FAILURE TO AMORTIZE NORMAL ACCRUED DEPRECIATION	46
XII. PAYMENT OF UNEARNED DIVIDENDS AND NEGLECT OF ORDINARY MAINTENANCE	55
XIII. OVERBUILDING	61
XIV. HOLDING COMPANIES AND BANKER CONTROL	67
XV. THE UNIFORM 5-CENT FARE	75
XVI. SPECIAL TAXATION AND FRANCHISE OBLIGATIONS	78
XVII. USE OF POLICE POWER TO COMPEL MORE AND BETTER SERVICE	88
XVIII. PUBLIC REGULATION OF STOCK AND BOND ISSUES	92
XIX. SHARE OF COMPANIES AND PUBLIC IN RESPONSIBILITY FOR LOSS OF CREDIT..	97
XX. EFFECT OF AUTOMOBILE AND JITNEY COMPETITION ON CREDIT	99
XXI. INCREASING DEMANDS OF LABOR	113
XXII. THE WAR AND THE DOLLAR	116
XXIII. HOW CAN CREDIT BE RESTORED?	129
XXIV. THE PROS AND CONS OF PUBLIC OWNERSHIP	140
XXV. PUBLIC COOPERATION AND A NEW DEAL REQUIRED	149
XXVI. INCREASE IN MARGIN AVAILABLE FOR CAPITAL	157
XXVII. DOUBLE PURPOSE OF UNIT FARE INCREASES	160
XXVIII. EFFECT OF FARE INCREASES UPON TRAFFIC AND REVENUES	165
TABLE I.—ANALYSIS OF TRAFFIC SHOWING RELATION OF REVENUE PAS- SENGERS TO FARE INCREASES	183 to 188
TABLE II.—ANALYSIS OF GROSS PASSENGER REVENUE SHOWING RELATION OF PASSENGER REVENUE TO FARE INCREASES	189 to 194

CHAP.	PAGE
TABLE III.—REVENUE PASSENGERS CARRIED ON PRINCIPAL URBAN STREET RAILWAY SYSTEMS FOR THE FIRST SIX MONTHS OF 1917, 1918 AND 1919	199
TABLE IV.—COMPARATIVE SUMMARY OF TRAFFIC DATA IN RELATION TO FARE INCREASES	205 TO 207
TABLE V.—COMPARATIVE SUMMARY OF PASSENGER REVENUES IN RELATION TO FARE INCREASES	208 TO 210
TABLE VI.—GENERAL SUMMARY OF ANALYSIS OF EFFECT OF FARE INCREASES UPON TRAFFIC AND REVENUES	212
XXIX. THE ZONE FARE OR DISTANCE TARIFF	218
XXX. RELIEF FROM TAXATION AND OTHER PUBLIC BURDENS	244
XXXI. EFFICIENCY IN MANAGEMENT AND ECONOMIES IN OPERATION	260
XXXII. CONTROL OR ABOLISHMENT OF JITNEY COMPETITION	286
XXXIII. CO-OPERATIVE RELATIONS BETWEEN MANAGEMENT AND MEN	300
XXXIV. PUBLIC SUBSIDIES	303
XXXV. ABANDONMENT OF UNPROFITABLE LINES	322
XXXVI. FINANCIAL RE-ORGANIZATION	327
XXXVII. NO ONE REMEDY SUFFICIENT	343
XXXVIII. THE VALUATION	345
XXXIX. THE RATE OF RETURN	385
XL. UNRESTRICTED STATE REGULATION	405
— XLI. SERVICE AT COST	434
XLII. THE USE OF PUBLIC CREDIT	505
XLIII. THE ELECTRIC RAILWAY LABOR PROBLEM	530
TABLE OF CONDUCTORS' WAGES	532 AND 533
XLIV. LABOR'S PUBLIC RELATIONS RECOGNIZED	537
XLV. LIMITATION OF "THE RIGHT TO STRIKE"	541
XLVI. THE PROGRAM OF THE AMALGAMATED	564
XLVII. LABOR'S PARTICIPATION IN MANAGEMENT	598
XLVIII. ELECTRIC RAILWAY EMPLOYEES AS CIVIL SERVANTS	618
XLIX. SERVICE VERSUS PROFITS	621
L. THE FOUR CHOICES	623
LI. ABANDONMENT OF THE PUBLIC INTEREST NO REMEDY	624
LII. COMMISSION REGULATION NOT ADEQUATE AS A SOLUTION OF THE PROBLEM ..	626
LIII. WHERE "SERVICE AT COST" FALLS SHORT	631
LIV. PUBLIC OWNERSHIP AND OPERATION THE ULTIMATE SOLUTION	635
SUMMARY	644
APPENDIX A. LOCAL TRANSPORTATION ISSUES IN NEW JERSEY	659
APPENDIX B. A REPORT ON CERTAIN ASPECTS OF THE TRACTION PROBLEM OF THE CITY OF DENVER, COLORADO	717
NOTES AND REFERENCES	749
INDEX	771

LETTER OF TRANSMITTAL

HON. CHARLES E. ELMQUIST,
Chairman, Federal Electric Railways Commission,
Washington, D. C.

Sir:

Pursuant to the action taken by the Commission October 4, 1919, and the arrangement with me subsequently made by Mr. Charlton Ogburn, Executive Secretary, and confirmed by you in your letter of October 20, 1919, I have gone over the testimony presented before the Commission, the exhibits filed with it and the data collected on its behalf by the Executive Secretary with as much thoroughness as the time at my disposal would permit, and have prepared a report containing an analysis of the testimony taken at the hearings and of the supplementary information filed with the Commission, together with a general discussion of the electric railway problem with suggestions looking to the formulation and adoption of public policies designed to aid in its solution. This report consists of fifty-four sections and is accompanied by a summary, table of contents, and index of witnesses and authorities cited.* On account of the enormous mass of material laid before the Commission, and on account of the multitude and complexity of the problems under consideration by the Commission, my report has necessarily become quite voluminous. It has been transmitted to you, to each of the other members of the Commission, to the Executive Secretary and to Dr. Milo R. Maltbie from time to time as parts of it were completed. As the Commission will soon meet for the purpose of considering my analysis and formulating its own report to the President on the matters which it was appointed to consider, I think it advisable in this letter to review as briefly as possible the salient points upon which emphasis may properly be laid.

Certain aspects of the electric railway problem appear simple, but a close examination of the causes that have contributed to the present financial embarrassment of the electric railway industry and a consideration of the consequences to the industry and to the country likely to follow upon the application of particular remedies reveal the fact that the problem as a whole is not simple, but extremely complicated and baffling.

The most important facts with respect to which there is little or no dispute may be summarized as follows:

1. The electric railway industry at present is a factor of vast importance in the urban life and, to a less extent, in the interurban relations of the country.
2. Electric railways as common carriers, primarily used for local passenger transportation, have been, are, and will continue to be a public utility, subject

* As printed, the sections have been treated as chapters, and the index of witnesses and authorities has been merged with the general index.

to public control as to the extent and character of the service they render and as to the rates they charge for such service. This is true whether or not the policy of private ownership and operation is continued.

3. Until very recently public control as to the rates of fare charged for electric railway service has almost universally in this country taken the form of a fixed, uniform unit fare of five cents prescribed either by statute or by local franchise ordinances or contracts.

4. As a result of the trend of economic forces through a period of about twenty years prior to the outbreak of the World War a gradual increase had been taking place in the unit prices of labor and materials entering into the construction, maintenance and operation of electric railways. This gradual increase was wholly or in part overcome by improvements in the electric railway art. Following the outbreak of the World War, however, and particularly since 1916, an enormous increase in electric railway unit prices has taken place which, at least for the time being, has quite outstripped the economics due to the progress of the art and the growth of revenues due to the increase of traffic.

5. For several years prior to the war, and to an increasing extent throughout the war period and up to the present time, the automobile has proven to be a serious competitor of the electric railways in rendering local transportation service. Jitneys and automobile buses operating as common carriers have been able in many cases, through the absence of sufficient public regulation, to engage in unfair and destructive competition with the electric railways for the most profitable part of urban passenger traffic. The direct results of this competition and the doubt as to the extent of its future development have even raised a query in the public mind as to whether or not the electric railway can survive as the principal means of local transportation, and this doubt has seriously affected the credit of the industry.

6. Electric railways, as a general rule, were not conservatively financed in their early years and have not since made good their overcapitalization, except to a limited extent, otherwise than through the process of bankruptcy and reorganization. Also, they have not reduced their capital on account of the accruing depreciation of their physical property and have not spent in the maintenance of their property or set aside as a depreciation reserve enough money to maintain the integrity of the investment at 100 per cent.

7. The destruction of capital incident to the World War, the unprecedented demands of the Government for loans during the war period, the great increase in the burden of taxation growing out of the war, and the general sense of increasing insecurity of invested capital have resulted in an increase in the cost of new money needed in the electric railway as well as in all other industries.

8. The net income of the electric railways has been greatly diminished and their credit so impaired that they cannot readily refund their outstanding obligations, and cannot without great difficulty, or at all, secure new capital for extensions, additions and improvements.

9. The electric railways generally have reached a condition where the margin of income available for return upon investment must be enlarged or else the entire capital foundation of the industry must be changed.

10. While the immediate occasion of the present evil plight of the electric railway industry is the economic changes that have been incident to the war period, the condition of the industry even prior to the war, particularly in its public relations, was unsatisfactory and unsound.

11. The wages of street railway labor prior to the war were generally insufficient from the point of view of "the living wage," and the increases in wages that have taken place since the beginning of the war period have not been greater, on the average, than the increase in the cost of living.

From a consideration of the foregoing points the following general conclusions appear to be obvious:

1. Unless the usefulness of the electric railway as a public utility is to be sacrificed, public control must be flexible enough to enable the electric railways to secure, in one way or another, sufficient revenues to pay the entire cost of the service rendered, including the necessary cost of both capital and labor.

2. Where the cost of service has greatly increased as a result of conditions over which the electric railways have no control, a corresponding increase in the rates charged for the service is the remedy that first suggests itself as in line with the remedies applied in other industries under similar circumstances.

3. In view of the essential nature of the service rendered by the electric railways and the extent of their use it is a matter of the highest public importance that both the total cost of the service and the cost to the individuals who use it shall be kept as low as possible without injustice to those who take part in producing it.

4. Economies in operation that do not involve a harmful lowering of the standard of service or an injustice to those who take part in rendering it, wherever such economies are practicable, are preferable to an increase in fares as a means of meeting the increased prices which enter into the cost of service.

5. Economy in the use of capital to the extent that such economy does not impair the service rendered is preferable to fare increases as a means of meeting the increase in the cost of capital, where such economy is practicable.

6. Savings in the cost of capital through financial reorganization and the adoption of more advantageous and economical methods of financing are preferable to rate increases as means of meeting the increase in the market rates of interest, where such savings are practicable.

7. Wherever unequal or excessive public burdens have been laid upon the electric railways on the theory that the community, as the grantor of the franchise for operation, is entitled to a share in the profits of the industry, the removal of these burdens is preferable to fare increases as a means of meeting the necessary increase in the cost of service.

8. The restoration and development of electric railway traffic and revenues through the removal of unfair, irresponsible and destructive jitney competition, and through the recognition and encouragement of the principle of monopoly within reasonable limits as applied to electric railway service under adequate public regulation, is preferable to fare increases as a means of meeting the increased cost of electric railway service.

9. If economies in operation, economy in the use of capital, savings in the

cost of capital, the removal of excessive and unequal public burdens and the elimination of unfair competition cannot be made to afford sufficient succor to enable the electric railways to pay the entire cost of service out of the revenues derived from electric railway rate schedules which the public has been accustomed to pay, then the remaining deficiencies may properly be made up by an adjustment of the fare schedules, subject to the limitation that in no case should the fares be so greatly increased as seriously to impair the usefulness of the electric railway as a public utility.

10. In communities where considerations of public policy require that electric railway fares shall be maintained at a fixed level or below a fixed maximum, then deficiencies in the earnings of the electric railways must be made up through other sources than passenger revenues to whatever extent may be required to meet the full cost of electric railway service. These deficiencies may be made up through the levy of special taxes upon property benefited, through the loan of public credit, or through direct subsidies from general taxation, but these methods of relief are everywhere subject to a proper consideration of sound public policies whether or not such policies are, in a particular case, embodied in constitutional or statutory restrictions.

11. If under private ownership and operation, with such degree of freedom from regulation or such degree of public assistance as may be practicable and the community may approve, the electric railways are unable to continue to render the essential service now being rendered by them, and to expand their facilities in proportion to the reasonable increase in the public demand for their service, then the assumption by the community of direct responsibility for the performance of the function of local transportation is a logical necessity.

The salient points outlined above are, I think, supported by the overwhelming weight of testimony presented to the Commission. The conclusions which I have personally reached from my previous study and experience as well as from this investigation go somewhat further. I will state them briefly as follows:

1. Local transportation service, coming as it does within the accepted definition of a public utility, is affected with a public interest. It has for its primary purpose the rendering of a public service. The electric railways are constructed, maintained and operated not primarily for the purpose of enabling capital to find profitable investment; not primarily for the purpose of enabling labor to earn a living; not primarily for the purpose of enabling management to win the rewards of administrative ability; but primarily for the purpose of rendering an essential service to the community. This fact distinguishes the electric railway industry from any and every purely private business, and makes the public interest in the quantity, quality and continuity of the service rendered, and in the charges made for such service, paramount.

2. Heretofore, under the policy of private ownership and operation, capital has assumed the management. Capital engaged in a public service such as local transportation enjoys the special guaranties which the Federal constitution and many of the state constitutions throw about property interests. It is entitled to a fair return subject to the limitation that in no case must the rates charged to the public represent more than the service is reasonably worth. The right of

capital to earn a fair return has, in many respects, been limited by the effect of restrictive contracts voluntarily entered into with the communities within which public service is being rendered. In case these contractual restrictions are all removed capital demands not merely the assurance of a fair return upon the investment, but, so long as it assumes the management, demands something more—a speculative chance of profit, or a special reward for efficiency. If it were divorced from management-capital would ask for nothing save security and a fair return, which, under those circumstances, would be the minimum rate of interest required to attract capital to a secure investment.

3. The cost of labor as an element in the cost of electric railway service has hitherto been determined primarily by the law of supply and demand subject to such adjustments as the employes could enforce through negotiation with the management representing capital, or through the power of the strike. As yet labor has no constitutional guaranty of the living wage corresponding to capital's guaranty of the fair return, but at the present time labor is properly demanding that, in the permanent settlement of the electric railway problem, the living wage shall receive practical recognition co-ordinate with or even precedent to the fair return guaranteed to capital. Labor does not, to an appreciable extent, control or participate in management, and, therefore, while existing relations continue it cannot demand more than the fair or living wage, except under conditions where the law of supply and demand makes the payment of a higher wage necessary. But if labor should assume the management, or any effective share in the management, it would then logically and necessarily claim something more than the living wage, just as capital now claims something more than the fair return.

4. The public has so fundamental an interest in electric railway service that it cannot permit itself to be the victim of the vicissitudes of an unregulated struggle between capital and labor and it cannot permit itself to be forced into the position of signing a blank check to cover the cost of service at whatever figure capital and labor may, by joint agreement, fix it. Therefore, it is necessary that a direct relation between the public and labor, as fundamental and effective as the direct relation between the public and capital, be established, to the end that labor may receive adequate public guaranties and in turn acknowledge and assume adequate public responsibilities in connection with the production of transportation service.

5. With the establishment of direct relations between the public and labor the responsibility of capital for management is undermined and its motive for efficiency in management weakened if not destroyed. That the public interest is paramount is proven by the constantly increasing scope of the public encroachments upon management. With the assumption of direct public responsibility for wages, hours, and conditions of work, and for the enforcement of continuity of service, the next step, which is both logical and necessary, is the assumption by the public of complete responsibility for management and the limitation of capital to its true function of supplying funds in aid of public credit for a fixed return determined by the security it enjoys.

6. The problem of credit can most effectively be solved by public ownership

undertaken through the acquisition of the existing electric railway properties at a fair price based upon the actual cost of existing and useful property with due regard to its present condition and with fair consideration of the equitable claims of invested capital with respect to losses not resulting from bad management or imprudent contracts. Upon this basis capital will retire from the management and will assume the same subordinate but useful position that it already occupies in relation to municipal improvements generally. The cost of capital will be reduced to a minimum and the credit necessary for inducing new capital to flow into the industry will be forthcoming on the basis of the security offered. This security will be increased and the cost of capital will be reduced in proportion to the conservatism of the financial policies adopted by the community. Ample depreciation reserves, the prompt amortization of dead capital, and the gradual amortization of the entire capital out of earnings or out of taxes will effectively maintain public credit for electric railway expansion.

7. The assumption of management by the public will involve the definite public recognition and guaranty of the rights of labor to a living wage, reasonable hours and just conditions of work, and will, at the same time, place electric railway employes in the position of civil servants with the advantages and responsibilities which are implied in that relationship. Labor is different from capital. It is a living thing; not inert. Its full cooperation even under public management can hardly be secured merely by civil service rules and a guaranty of the living wage. No doubt one of the principal jobs of public management will be to work out a more effective and democratic relationship with labor than has hitherto characterized the electric railway industry under either private or public operation.

8. The imperative need of the present time is the acceptance of public ownership and operation as a policy, and the adoption as rapidly as possible of those measures which are required to clear away the obstacles to the realization of such a policy, and to make it successful in the highest practicable degree when realized. Any temporary relief granted to the electric railways and any temporary readjustment of their public relations under private ownership and management, such as the working out of a more complete and unrestricted system of state regulation or the adoption of a service-at-cost plan, ought to be consistent with and preparatory for the early and effective consummation of public ownership and operation as the ultimate policy.

I think I have a proper realization of the dangers and difficulties inherent in the policy which I have proposed, but I am confident that these dangers and difficulties can readily be overcome if public opinion can be crystallized in favor of a serious effort to overcome them. If public ownership and operation are either inherently desirable or, in the course of events, inevitable, it is of the utmost importance that the community should set its house in order and prepare to assume in an orderly and effective way the responsibility that it cannot ultimately escape.

Respectfully,

DELOS F. WILCOX.

Elmhurst, N. Y., June 8, 1920.

ANALYSIS OF THE ELECTRIC RAILWAY PROBLEM

CHAPTER I

THE STREET RAILWAY AN ESSENTIAL PUBLIC INDUSTRY

The magnitude of the electric railway industry was put forward by the witnesses on behalf of the American Electric Railway Association as a proof of its importance from the public point of view. It was shown from the information collected by the Bureau of the Census that in 1917 the net capitalization of the electric railways of the country was \$4,889,962,096. This indicates that from the point of view of nominal investment the electric railways are about one-fourth as important as the steam railroads of the country, the capitalization of the latter on December 31, 1916, being \$19,630,610,082. The total mileage of the electric railways in 1917 was 44,835 as compared with a mileage of 294,030 in the case of the steam railroads. These figures show a net capitalization per mile of track of about \$66,771 for the steam railroads, and \$109,132 for the electric railways, indicating that the electric railways are capitalized 63.44% higher per mile of track than the steam railroads. In comparing the magnitude and importance of the electric railways and the steam railroads it must be borne in mind that the electric railways are engaged primarily in the transportation of passengers, while on the steam roads passenger transportation, although of great importance, from the point of view of both revenue and service, represents only a fraction of the transportation business. The total revenues from railway operation collected by the electric railways of the country in 1917 were approximately \$650,000,000 as compared with \$4,119,000,000 collected by the steam roads during that year, of which \$825,000,000, or about 20%, was for passenger service.

These statistics indicate that although the electric railway industry is one of vast magnitude, it is far less important from the financial point of view than the steam roads. The electric railways included in the Census Bureau's statistics are primarily street and interurban railways and do not include the electrified portions of steam railroads engaged in suburban service, such as the New York City divisions of the New York Central, the Pennsylvania and the Long Island railroads.

The figures submitted to the Commission showing the magnitude and im-

importance of the electric railway industry make no separation between urban street railways and interurban electric lines, but the special Census report for the year 1912 indicates that about 40% of the mileage included in the electric railway statistics for that year was suburban or interurban. The mileage figures already given include sidings and car house and car yard tracks, of which there were 2,731 miles in 1912. Upon the basis of the available information, it appears that the main track mileage of the electric railways consists of about 25,000 miles of tracks in city streets and 17,000 miles of suburban or interurban tracks. No division of capitalization or earnings can be attempted from the data submitted to the Commission, but it is unquestioned that from the point of view of investment cost, service rendered and revenues collected, the urban lines are relatively much more important, mile for mile, than the suburban and interurban lines.

From the point of view of freight service the contrast between the urban electric railway lines and the steam roads is much more marked than the contrast between the interurban lines and the steam roads, since the interurbans have developed a considerable amount of freight and express business supplementing or in competition with the freight service of the steam roads.

While the electric railways are less important than the steam roads from several points of view, nevertheless they are much more in the public eye, for the reason that they come into daily contact with a vastly greater number of people. In the year 1917 the electric railways carried a total of 11,304,660,462 revenue passengers, and 3,202,254,111 transfer and free passengers, as compared with a total of about 1,141,000,000 passengers carried by the steam roads. Thus it appears that the electric railways in their passenger transportation service come into contact with more than ten times as many people as the steam roads do. While the average ride furnished by an electric railway, especially by an urban street railway, is of very much less importance than the average ride furnished by a steam railroad, nevertheless every ride is either a necessity or a convenience, in connection with which the passenger comes in contact with the physical property devoted to public service and with the employes engaged in rendering that service.

It is significant that although the number of passenger automobiles in the United States on December 31, 1917, was estimated to be 4,643,481 as compared with 79,914 electric railway passenger cars, a ratio of nearly 60 to 1, and that two-thirds of the development of the automobile industry was subsequent to 1912, the number of revenue passengers carried by the electric railways was approximately 1,800,000,000 more in 1917 than in 1912. This indicates that in spite of the immense development of the automobile industry the demand for electric railway transportation has gone on increasing at a rapid rate. In this connection, Mr. Henry G. Bradlee, President of the Stone & Webster Corporation, submitted to the Commission, in a letter dated October 1, 1919, certain information with respect to the development of electric railway traffic and earnings as compared with the development of population served by Stone & Webster lines. Nineteen companies operating in Texas, Florida, Georgia, Louisiana, Washington and elsewhere were included in the computations. The figures show

an average estimated increase in population served during the ten-year period ended June 30, 1919, of 42.3%. Upon this basis the passenger earnings per capita increased 26.9% during that period, and the number of revenue passengers carried per capita per annum increased 24.3%. In explanation of the reason for the compilation of the figures submitted by him, Mr. Bradlee said:

"The idea seems to be prevalent in many quarters that the street railway has seen its day of greatest usefulness, and that the automobile is gradually driving it out of business and constantly decreasing the public demand for street railway service."

Commenting upon the results shown when the figures for the entire nineteen companies had been compiled, he said:

"If these figures are a fair indication of what has taken place in other cities (and I know of no reason why they should not be), the street railway is by no means a dying institution, nor has it been seriously affected by the introduction of the private automobile; on the contrary, the demand for service is materially greater than it has ever been before and is still growing at a rapid rate. It would appear that something has been and is still stimulating the street railway business; possibly the automobile itself has helped in this direction. People may be acquiring to a greater extent than ever before the riding habit, and may be more and more inclined to move about and spend less time in their own homes or with their immediate neighbors. The moving picture is probably also a factor in the situation, but whatever may be the cause the fact seems pretty clear that the demand for transportation service is still growing apace. This fact I think is pretty generally misunderstood; in fact I am free to confess that we ourselves were surprised to see the extent of the increased demand for service."

Figures prepared by the Public Service Commission for the First District showing the rapid increase in street railway traffic in New York City tend to bear out Mr. Bradlee's conclusion based upon the Stone & Webster experience in smaller communities of the south and southwest. During the year ended June 30, 1919, the total number of revenue passengers carried by the local transportation lines of New York City was 2,079,942,604 as compared with 1,402,417,642 carried during the year ended June 30, 1909, an increase of more than 48% in ten years. On the basis of the estimated population served the Public Service Commission figures that the number of revenue rides per capita in 1909 was 304 and in 1919, 370, an increase of nearly 22% in the riding habit. The Public Service Commission's table gives the number of street railway revenue passengers carried and the number of revenue rides per capita in 1860 and during every census year thereafter until 1900, and year by year from that time on until 1919. The facts shown are so significant of the absolute development of the street railway business, and of its relative development as shown by the growth of the riding habit, that the figures for the entire period are given herewith:

NEW YORK CITY STREET RAILWAY TRAFFIC¹

<i>Year</i>	<i>Total Revenue Passengers</i>	<i>Revenue Rides Per Capita</i>	<i>Year</i>	<i>Total Revenue Passengers</i>	<i>Revenue Rides Per Capita</i>
1860	50,830,173	43	1908	1,358,000,407	305
1870	152,463,920	103	1909	1,402,417,642	304
1880	290,417,029	152	1910	1,531,262,914	321
1890	569,149,560	218	1911	1,603,901,397	330
1900	846,353,058	246	1912	1,680,913,935	339
1901	881,344,801	248	1913	1,769,876,508	350
1902	938,989,964	256	1914	1,813,204,356	352
1903	1,000,767,483	265	1915	1,807,632,726	345
1904	1,065,984,910	274	1916	1,898,735,615	356
1905	1,130,982,696	283	1917	1,918,812,229	353
1906	1,251,841,175	301	1918	1,975,511,789	358
1907	1,313,381,388	305	1919	2,079,942,604	370

From the point of view of the magnitude of the street railway industry and of the service that it renders, it should be added that the electric railways had 294,826 employes in 1917, and paid taxes amounting to \$45,736,695 or 7% of their total railway operating revenues during that year. No exact figures are available to show what proportion of the total population of the country is directly served by electric railways, but in general it may be assumed that the population served is somewhat lower than the total urban population estimated on the basis of the number of people living in cities and towns of more than 5,000 population. On this basis the urban population of the country, as shown by the 1910 census, was 38,517,727. It would probably be safe to estimate the total number of people who are directly and conveniently accessible to electric railway service at very nearly 50,000,000 at the present time. While it is true that the electric railways have overflowed municipal boundaries and now include a network of interurban lines in many portions of the country, it still remains a fact that the electric railway as thus far developed is primarily an urban street railway with its principal function the transportation of passengers within the limits of municipalities. The correctness of this conclusion is confirmed by consideration of the fact that the total amount of revenue collected by the electric railways from railway operations in 1917 amounted to only 5.75 cents per revenue passenger carried. All the figures go to show that the principal function of the electric railways is to supply cheap and convenient transit for urban populations, and that the amount of service demanded of them, though stupendous in the aggregate, is made up of an immense number of very small units.

In an important sense the essential nature of the electric railway business is demonstrated by the extent of the demand for its service. Another factor that tends to establish the public character of the electric railway business is its relation to the public streets. From the very beginning of the street railway industry—a generation before electric traction was introduced—it was universally recognized that through its use of the streets as a right of way for its tracks the street railway came into a peculiar relation with the public. By special franchises granted either by direct act of the state legislatures, and by Congress in the District of Columbia, or by the local authorities having control of urban streets, a contractual relation was established between the public and the companies that undertook to render local transportation service. These special franchises or contracts came to be in many communities very complex documents, entering into great detail not only with respect to the fares to be charged but also with respect to the character of the service to be rendered and the compensation to be paid into the public treasury for the use of the streets. Furthermore, after fifty or sixty years of effort to control the operation of street railways in the public interest through franchise contracts, with very indifferent success, the public was finally compelled to invoke the police power and to establish permanent regulatory commissions to enforce upon the electric railways the obligations to the public which the nature of their business placed upon them. The theory of continuous public regulation has come to be so widely recognized and so completely established as a necessary public policy that for the most part the electric railway companies themselves accept public regulation as a permanent condition

of their operation. While many men speaking for the companies are critical in their view as to the benefits thus far derived by the industry from public regulation, there are very few left at the present time who do not, at least in public, profess their belief in the desirability and necessity of a continuance of the policy of regulation through public agencies. While some of the policies which are now being proposed as a result of the present distress of the electric railway industry would undoubtedly tend to weaken and perhaps destroy the effectiveness of public regulation, no one responsible for the recommendation of such policies is willing to admit that they are in effect adverse to the principles of public regulation.

Indeed, if further proof of the essential nature and the public character of the electric railway business were needed, it could be found in the nation-wide appeal which the electric railway industry is now making to the federal, state and local governments for help, and particularly could it be found in the perusal of the testimony that has been presented before this Commission by the Committee of One Hundred appointed to represent the American Electric Railway Association. A purely private industry would not make such an appeal. One of the reasons is that a purely private industry would not be subject to the governmental restrictions with respect to rates and service which have been imposed upon the electric railways, but the appeal that is now being made is not merely for the removal of governmental restrictions—for the removal of such restrictions would mean the abandonment of public regulation and of public responsibility for the welfare of the industry—but the appeal is rather for the modification of existing restrictions and for the establishment of a new relation between the public and the industry that will embody a clearer and fuller recognition of public responsibility for the financial welfare of those of the agencies which have undertaken to render electric railway service. The appeal of the companies is not "to be left alone," which in general they recognize as something that on account of the nature of their business is inherently impossible, but to be helped. Their appeal is to the public to assume some responsibility in the conduct of a public business. While it may be that the particular policies which they ask the public to adopt in the present emergency are not in all respects consistent with a full recognition of the essential nature and the public character of the business, nevertheless their appeal in principle is based upon such recognition.

After looking at electric railway service from every angle, we reach the inescapable conclusion that this service is essential in its nature and that the ultimate responsibility for its performance upon terms and conditions conducive to the general welfare rests upon the communities for which it is rendered.

CHAPTER II

RESTORATION OF ELECTRIC RAILWAY CREDIT A FUNDAMENTAL NECESSITY

The National War Labor Board, in its findings in the Cleveland Railway wage arbitration dated July 31, 1918, referring to the condition of street railway companies in general, said:

"The credit of these companies in floating bonds is gone. Their ability to borrow on short notes is most limited. In the face of added expenses which this and other awards of needed and fair compensation to their employes will involve, such credit will completely disappear."

The findings in the Cleveland case were cited in a long series of other awards in which a wage scale of from 43 cents to 48 cents per hour was put into effect. Since then wages in Cleveland and a number of other cities have gone up to 50 cents, 55 cents and 60 cents per hour.¹ It is admitted that the Cleveland Railway Company, operating under a service-at-cost franchise within certain limitations, maintained its credit much better than the other street railway companies of the country.

The recommendations of the joint chairmen of the War Labor Board, based on the conclusions they had reached in acting as arbitrators in wage controversies between the street railway companies and their men, were in large measure responsible ultimately for the creation of the Federal Electric Railways Commission. In fact, Ex-President Taft, one of the joint chairmen, was the very first witness to be called before the Commission to testify as to the condition and needs of the electric railways. He referred to the companies as having "their backs to the wall" financially, and in reply to questions put by Commissioner Gadsden, gave the following testimony with respect to their credit (page 12 of the Proceedings)²:

"Commissioner Gadsden: Now, Judge, coming to the question of investment: The situation today, as doubtless your investigations have shown, is that the electric railway industry has lost its credit?"

"Mr. Taft: Entirely."

"Commissioner Gadsden: As a matter of fact, in order that this essential industry shall continue its service to the public, is it not necessary that its credit, its financial credit, shall be restored?"

"Mr. Taft: It is."

"Commissioner Gadsden: Otherwise it can not get the additional capital to make its extensions and improvements and keep the service up?"

"Mr. Taft: That is true."

Mr. Harold L. Stuart, President of Halsey, Stuart & Company, investment bankers of Chicago, was questioned at one of the early hearings about the present demand for street railway securities. His testimony on this point is found at page 185 of the Proceedings, as follows:

"Mr. Warren: How are street railway securities regarded now in investment circles?"

"Mr. Stuart: They are regarded with great distrust and disfavor, to such an extent

that it is almost impossible to distribute street railway securities, I don't care how good they are. I am speaking now about bonds—not stocks.

“Mr. Warren: Yes; bonds.

“Mr. Stuart: It would be absolutely impossible to distribute street railway stocks.

“Mr. Warren: And how long has that been true?

“Mr. Stuart: So far as bonds are concerned, as I say, about two years ago. For some time back of that street railway stocks had not been sought for, I believe.”

Mr. Samuel R. Bertron, of Bertron, Griscom & Company, bankers of New York and Philadelphia, stated that “it is practically impossible for anyone to sell any street railway security to any investor—anything else, but not a street railway security; an oil stock, or any old thing, but no street railway securities, and, as a result, it is impossible to raise money, because they have no credit.” (Page 538 of the Proceedings.)

Mr. Henry L. Doherty, President of the Cities Service Company and of the Henry L. Doherty Company of New York, in his testimony on behalf of the American Electric Railway Association, described the credit of the street railways as “already strained beyond the elastic limit.”

Mr. John G. Barry, General Sales Manager of the General Electric Company, after referring to the amount of equipment sold during 1917 and 1918 to the Philadelphia Rapid Transit Company and other companies affected by war industries for which the money was provided, at least in part, by the United States Shipping Board Emergency Fleet Corporation, gave the following testimony with respect to companies not affected by war industries (page 384 of the Proceedings):

“The Chairman: Have the utilities which have not been affected by war industries purchased much equipment during the last two years?

“Mr. Barry: They have not, Mr. Commissioner. They would like to purchase equipment, but, unfortunately, they are not in a position to get the equipment. Their credit is gone.”

Mr. Henry G. Bradley, of Stone & Webster, in describing the conditions necessary for the establishment and maintenance of credit in the street railway business, made the following statement (page 209 of the Proceedings):

“The street railway should be looked on, as I see it, not as a static thing but as a growing organization, something which is expanding and extending all the time and which must extend and expand to adequately serve the public. It is possible to make a trade with the city by which the investment which has already been made shall accept what may seem an adequate return, but that is only a half truth; it is looking at only half the situation. You can make a trade with a man who already has his money invested, but you cannot make a trade of that kind with a man who is going to invest his money next year and the year after. That man will look at the situation in the street railway field and compare it with the situation in other lines of industry. There is no situation that I know of where competition is keener than in the investment of money. The investor looks for the investment which he considers is going to be the most favorable for him, and that is the investment which he buys. Unless he can be convinced that he will have equal security and an equal chance for profit in the street railway or other public utility industry that he can obtain in manufacturing and any other line of industry, he will put his money into manufacturing and not into the public utility.

Now, that problem is the one which lies at the basis of the solution of this whole question. It is not the question of what money is in there so much as it is how you are going to get additional money in order to reasonably serve the public.”

From the point of view of the public, several witnesses familiar with conditions in Massachusetts gave especially significant testimony. Hon. Frederick

J. McLeod, Chairman of the Massachusetts Public Service Commission, testified as follows (pages 1454-1455 of the Proceedings) :

"The difficulty of the street railway problem, as I view it, is not so much in providing means for meeting the current costs of operation, although that problem is difficult enough, God knows, but it is the problem of getting in them new capital.

"It is an absolute essential that if this industry is going to go on, you have to get new capital in.

"For various reasons the street railway securities have received such a black eye that investors will have nothing whatever to do with them; and I cannot see any possibility by fare increases of any extent, of restoring the companies to a condition where the investors will be willing to buy their stock on any reasonable basis; and if you start with the theory that you have got to build up fares and street railway's return to a point where you are going to make that investment attractive to the people who have money to invest, you have got to make your returns so much that they are going to be absolutely out of sight of what anybody ever supposed was within the bounds of possibility as a reasonable return."

Mr. Homer Loring, Chairman of the Board of Public Trustees for the operation of the Eastern Massachusetts Street Railway Company, formerly the Bay State system, in addressing the Commission said (page 1651 of the Proceedings) :

"Of course, the question of credit, to my mind, is the most important thing that you gentlemen have to consider. It is difficult enough to establish credit anyway, and it is doubly difficult to reestablish credit after it has once been lost.

"Now, the street railways of the country have lost their credit. With few exceptions, I think it is very, very doubtful whether they are going to be able to get the credit back while under private management, and of course, that becomes to my mind, the most important argument in favor of public ownership."

This point of view was further emphasized by Interstate Commerce Commissioner Joseph B. Eastman, former member of the Massachusetts Commission, in the following testimony (pages 2068-2069 of the Proceedings) :

"Coming to the final point, I really think it is the vital point: You ought to make clear the essential need of adjusting conditions so that necessary supplies of capital can be secured. It is absolutely vital to many of the improvements which I have suggested that capital should be available so that the improved equipment and apparatus can be bought; and apart from those improvements, it is equally vital, so far as the extensions and developments of the properties in the future are concerned. No property can go on operating in a growing city unless it has the ready means of securing needed capital."

A little farther on, referring to the disappointing effects of increased fares upon the financial condition of the companies, Mr. Eastman said (page 2069 of the Proceedings) :

"The earnings are not high enough to support the credit of even a conservatively capitalized company, in many cases, and even if the earnings were better, I am still afraid that the credit would be poor; because street railways have, apparently, ceased to be an attractive field for private investment. The investors are afraid of street railway securities. They are afraid because of their experience in the past, and I think they are also afraid because of their fear of what may possibly happen in the future. They are in doubt, for instance, in regard to the possibilities of automobile competition and labor complications."

CHAPTER III

FUNDAMENTAL IMPORTANCE OF LABOR AS A FACTOR IN STREET RAILWAY OPERATION

The electric railways differ from most other utilities in the fact that they require a relatively larger number of employes, and these employes come into more frequent contact with the public. The electric railways render a service to their patrons instead of delivering a commodity to them. In this respect they are like the telephone, but even the telephone girl, on account of her invisibility, seems relatively impersonal when compared with a street car motorman or conductor. From the point of view of the public the street railway cannot afford to employ human automatons or merely intelligent workmen. The conductor and the motorman require a certain degree of technical skill, but this is not hard to acquire. Ordinarily intelligent men can be quickly trained for platform service so far as the technical end of the work is concerned. What is more important is their personal appearance and their "social qualities." Moreover, there is no other utility in which the management is so dependent upon the care, the honesty and the faithfulness of the great body of its employes in connection with the collection of its revenue.

During the war some electric railways experienced considerable difficulty in getting or holding a sufficient number of men to man the cars. In some cases the service was considerably curtailed, even though the managements knew perfectly well that they were losing money by their failure to run more car miles. But outside of the period of most intense war activity, when labor was scarce everywhere and fabulous wages were being paid in war industries, the electric railways of the country have never experienced any general or prolonged difficulty in securing an adequate number of trainmen. The men employed have not always measured up to a proper standard of intelligence, character and efficiency, but for this the companies themselves are chiefly responsible, since it is the companies that set the standards through the wages and conditions of work offered and the training given or required.

From the public point of view the labor problem in the street railway industry is the problem of securing an adequate number of men with the necessary qualifications for rendering service, and with the sense of responsibility and the spirit of cooperation that will effectively prevent them from abandoning their work for the purpose of causing an interruption of service. Street railway service does not last a minute after the men quit their posts, and for this reason it is essential that the men be continuously in a frame of mind that will prevent strikes.

The National War Labor Board regarded wages as an operating expense, and held that the payment of a just wage should not be dependent upon the

financial condition of the employers. Upon this point Ex-President Taft's testimony, at page 2 of the Proceedings, is as follows:

"On the other hand, these matters were referred to us as arbitrators, and the issue then arose: Had we any right, in considering what wages would be fair, to take into consideration the financial condition of the company that was present before us as a party? And we had no hesitation in reaching the conclusion that labor was as much entitled to an independent consideration of what its wages should be as a coal man was who furnished coal or a material man who furnished iron; that that question must be determined by what was being paid in similar fields of labor. Therefore we refused flatly, from the first, to consider the financial condition of any company in determining the rate of wages. Of course had we done so, we would have been put in the further absurd position, which seemed to demonstrate the correctness of our original conclusion, that the man working for a company that had been badly managed and was carrying on the business under conditions that rendered it unprofitable for other reasons should be paid less for the same work, than * * * * the man who served with a company that was better managed and had a profitable arrangement. So that on all sides it seemed to us that that was the just conclusion.

"We realized, however, in stepping into that field and increasing wages free from that 'back-against-the-wall' position which the railway employers had had in the past—because we were acting as judges and as arbitrators—that we might bring about, inasmuch as wages formed a great factor in the cost of operation—that we might bring about financial trouble."

The awards made by the War Labor Board had the result of greatly and suddenly increasing the cost of street railway operation, and this was regarded by a number of the witnesses as one of the principal factors in bringing about insolvency and receiverships. Upon this point, Mr. Francis H. Sisson, Vice-President of the Guaranty Trust Company of New York, after discussing the effect of the decrease in the purchasing power of money and the increase in interest rates upon the credit of the electric railway companies, made the following statement at page 318 of the Proceedings:

"Another factor, however, which has contributed largely to the difficulties of the situation, has been the wage awards of the National War Labor Board.

"In this connection, it may be illuminating to quote the following sentence from a letter written by the receiver of a New England electric railway company:

"The receivership is a direct result of the National War Labor Board's award, which placed an additional payroll burden of \$125,000 per annum upon the company, notwithstanding our having submitted to the Board a full statement of our funds and demonstrating to them that any other increase in wages would create the situation which we now face."

"In a hearing between the street car companies of Cleveland and Detroit and their men, the companies pleaded that they should not be required to raise wages because they had no income out of which to pay the increase. They said:

"We are working under a franchise on which we receive only three or four cents a passenger carried many miles, and, if a substantial increase in wages be granted, bankruptcy and a receivership follow."

"Yet, the joint chairmen of the Board of Arbitrators in these cases held that the financial condition of the companies could not affect the issue at stake, the issue of wages.

"Such rulings are only in keeping with the general public's attitude toward the electric railways, which has compelled these companies to operate under two distinct, and in some respects, diametrically opposed kinds of law, legal and economic. The seriousness of this handicap is apparent when it is realized that probably one-half of the gross operating expenses of a railroad consist of labor costs, which are constantly increasing while the abnormally low rates for the service rendered by electric railways were, in many cases, fixed years ago by special laws, or by provisions contained in ordinances or franchises."

While there was a general recognition on the part of the witnesses representing the American Electric Railway Association and those representing the public that the decisions of the War Labor Board gave the electric railways a decided financial shock, there was very little disposition to question the propriety of the policies adopted by the Board or its decisions in particular cases where wage increases were granted. But through the testimony of the witnesses representing the electric railway companies, and of those representing the regulatory

bodies, there was running an undercurrent of fear that labor had been trained by the war to "take the bit in its teeth" and that the future financial status of the industry was rendered unstable by the uncertainty as to the attitude of labor in the future. Mr. Sisson spoke from the point of view of the investment banker. Mr. William C. Bliss, Chairman of the Rhode Island Public Utilities Commission, discussed the matter more from the point of view of the public. His views are found at page 1186 of the Proceedings, as follows:

"I wish briefly to touch upon what I believe have been the fundamental causes of the emergency situation that exists.

"The increased cost of labor and material is absolutely at the foundation of the problem. It is the cause of increased fares, it is the cause of receiverships and the lack of prosperity on the part of the companies. I believe the increased cost of the materials could have been handled and can be handled by the company. The increased cost of labor, I see no definite way of handling. I do not know any way in which it can be dealt with until the people who are inconvenienced by strikes, the people who are the ones who have to pay the tremendous increased burden of these fares, until those people rise up and educate those who represent them in legislative bodies to the fact that some authoritative tribunal must pass upon these matters and that the public convenience must be considered in dealing with these things, and somebody must stand up and definitely and finally decide what shall be a fair wage; and strikes of the people after such a decision, or organized attempts to interfere with the carrying on of business should be punished according to law. That may be the ultimate way out of it. Under the present conditions I do not see any immediate prospect of relief, but I think all of us must realize that it is a disorderly way of dealing with the problem of the wages of men employed in street railway employment, to force the public to suffer the inconvenience of strikes."

It was stoutly contended by witnesses on behalf of the Amalgamated Association of Street and Electric Railway Employes that the wage awards made by the National War Labor Board were moderate to the point of conservatism. At pages 43 and 44 of the Argument and Brief¹ filed by him on behalf of the employes, Mr. W. Jett Lauck, former secretary of the War Labor Board, said:

"There is a popular idea that the National War Labor Board in its wage awards to street railway employes gave the finishing push that sent the companies upon the financial rocks, but that is not the truth. These awards affected the trainmen directly far more than they affected other employes, and yet Chart A shows that in 1918, when the great majority of the awards were made, the ratio of trainmen's wages to total salaries and wages remained at the same point (49.1 per cent) that it was at in 1917.

"During the year 1918 (and the first few months of 1919) the National War Labor Board made wage awards on about 90 street railways, including a good many of the leading companies of the United States. Based upon the increase in the maximum of the wage scale, the increase per company (unweighted) amounted to 23½ per cent, while the weighted increase per trainman amounted to 22½ per cent.

"But from December, 1917, to December, 1918, the weighted cost of living rose from 141 to 172 (the base being July, 1914), an increase of 22 per cent, so the awards of the National War Labor Board barely kept up with the increase in the cost of living and did not enable the trainmen to catch up with the loss they had already sustained since 1914, to say nothing of the loss from 1902 to 1914.

"In rendering a decision upon the case of the Bay State Street Railway of Massachusetts, in December, 1918, Chairman William Howard Taft pointed out that wages in the electric-railway industry were low and that the employes were underpaid. But in spite of that well-founded opinion the Board did not do anything to rectify the injustice it found to exist except in a few of the more grossly underpaid roads such as New Orleans.

"The awards of the National War Labor Board were not of as much effect upon the electric-railway industry as the increases that simultaneously took place in the other costs. This is shown by Charts D and D-5. In 1917 the wages of trainmen amounted to 31.1 per cent of the total operating expenses; in 1918 they amounted to 30.9 per cent. In 1917 they were as large as 45.1 per cent of the *other* operating expenses (exclusive of trainmen's wages); in 1918 they were only 44.7 per cent as large. In other words, during the year from 1917 to 1918, trainmen's wages increased 17.6 per cent in the aggregate, while the other expenses increased 18.7 per cent.

"The primary duty of the National War Labor Board was to keep the industries of the country running during the period of the war. It well fulfilled that duty. But in the case

of the street railways, at least, it fulfilled it with only moderate advances to the trainmen, assisted by the patriotism and the moderation of the trainmen themselves. There is no ground for any of the statements which have been made to the effect that the awards of this Board were excessive, or that they crippled the street railway industry."

The importance of the labor factor in the cost of street railway operation was discussed at length by Prof. Mortimer E. Cooley, Dean of the College of Engineering and Architecture of the University of Michigan, a witness on behalf of the companies. His views appear at pages 269 and 270 of the Proceedings, as follows:

"Now the fact appears to be that if we were to build properties within the last year, say, or quite recently, we would have to pay fully 50 per cent more to secure the same property, I think 50 per cent is a very conservative estimate, and that of course is for the cost of the property. It is due to the advance in labor and materials and other elements which come in. Now when you come to operate that property of course there are the platform expenses of the motorman and conductor and all the labor has advanced tremendously; I think in some instances doubled, perhaps, and with a request for a trebling.

"The importance of that labor element alone, that wage element alone almost is conclusive answer, because under pre-war conditions as I recall the figures about 50 per cent of the gross operating expenses were required to pay the labor, the platform expenses and the other help that entered into it. This whole operating cost excluding taxes was about one-half the gross income. So one-quarter of the gross income was labor and wages. Now suppose you double them, that 25 per cent becomes 50 per cent. Suppose you treble them, see where you go. You have simply absorbed all the difference between the original 50 per cent that you have to pay for taxes, depreciation fund and interest on the capital, on the funded debt and the other things that had to be paid out of the income over and above the cost of operation per se. Now you double the cost of operation, you have wiped out everything."

Dr. Thomas Conway, professor of finance in the University of Pennsylvania, another witness for the Electric Railway Association, referred to the sharp increase in the cost of materials in 1916, and then took up the problem of labor cost at page 944 and page 947 of the Proceedings, as follows:

"Then the labor phase of the situation became acute, and what I call the first crisis in the labor element was reached last summer, when the War Labor Board was called upon to readjust wages in order to offset the increased cost of living.

"Now, as you doubtless know, the greater part of the expenses of an electric railway is labor. My recollection is that the census of 1912 shows that over 60 per cent of the total operating expense of electric railways were wages and salaries, and that only a little over 1 per cent represents the salaries of officers. A recent careful study of the cost of operation of the Public Service Railway Company for the 12 months ending July 1st of this year showed that over 75 per cent of the operating expenses were labor, and since that time the War Labor Board has raised wages. I have not figured it out, but it must be practically 80 per cent now of the operating expenses of that company are labor.

"The increased wages which the War Labor Board granted to the men beginning last summer and extending through the fall and winter brought a very serious problem, and as I see it the companies have not even yet been able to readjust their fares and their income to take up these increased expenses represented by the increased wages granted to the men last summer and fall and early winter.

"Now, we are about to enter, in my opinion, the third phase. It is here. It is on us. We are just coming into it, and that from the standpoint of the companies is the most serious of all, on the theory that it is the last straw that breaks the camel's back.

"You know the wages of trainmen, and they carry with them collateral increases for other classes of employes, have recently been increased, by one method or another, and the process, as I see it, of a second general readjustment is here.

"I call attention to the recent increase in Detroit from 48 cents to 60 cents an hour, and in Cleveland 48 cents to 60 cents an hour.

* * * * *

"Now if I am correct in my assumption that these increases in wages which have come about in the last few days are the forerunners of another general advance, such as occurred in the late summer, then all of these increased rates are going to be as inadequate, or almost as inadequate, as were the rates prior to the time of the last increases. We have got to get over another mountain."

Specific figures showing the increase in the average rate per hour paid to trainmen, from 1906 to 1919, were presented by Mr. James W. Welsh, statistician of the American Electric Railway Association. At page 111 of the Proceedings he introduced Chart C-133 based upon the average rate per hour paid by about sixty companies having over 100 miles of single track each. The figures accompanying this chart are given at page 112 of the Proceedings, as follows :

<i>Year</i>	<i>Rate Per Hour</i>	<i>Per Cent Increase</i>	<i>Year</i>	<i>Rate Per Hour</i>	<i>Per Cent Increase</i>
1906	23.03	100.	1913	27.74	120.45
1907	24.11	104.69	1914	28.14	122.23
1908	24.75	107.47	1915	28.62	124.27
1909	24.57	106.69	1916	29.25	127.01
1910	25.85	112.24	1917	31.57	137.08
1911	26.10	113.33	1918	33.92	147.29
1912	26.89	116.76	1919	44.43	192.92"

Mr. Welsh explained that the rate per hour shown in each year was the average rate of all the companies based upon the rates paid to the men oldest in service. These figures indicate a wage increase of 92.92% from 1906 to 1919, but the increase from 1914 to 1919 was only 57.88%. Mr. Bently Warren, counsel for the Association, stated in this connection that an investigation by a Massachusetts company with which he was familiar showed an increase of 105% in the weighted average prices of materials and supplies from 1914 to 1918. This and other evidence produced before the Commission tended to show that trainmen's wages had not increased nearly as much as the prices of street railway commodities. It is shown at page 67 of the brief submitted on behalf of the employes that the cost of the workingmen's budget rose from \$979 in 1914 to \$1,653 in 1919. This was an increase of 68.8%. On page 43 of this brief, it is claimed that "wage rates have not advanced as fast as the cost of living." In support of this claim, a chart is presented which shows that from 1914 to January, 1917, wage rates advanced 8% while the cost of living advanced 16%; that by January, 1918, wage rates had advanced 15% and the cost of living 41%; and by January, 1919, the wage rate increase had reached 48% and the cost of living increase 72%. In its general conclusions the employes' brief maintains that "the present plight of the electric railway industry is not brought about by any increase that has been made in the wages paid to the trainmen," and contends that "quite to the contrary, the trainmen have not received an increase that is at all commensurate with the great increase that has taken place in the cost of living." The employes further contend that the average annual earnings at the 1919 rates of pay, amounting to about \$1,300, should be increased to a minimum of \$2,000 to cover a living wage under present conditions. They maintain that before the war they were underpaid, and that now they are still more underpaid. This indicates that if labor is to be induced to do its work efficiently in the electric railway field, further wage increases and improvements in working conditions are likely to be necessary.

The fact that both the employing companies and the riding public have heretofore too much neglected the human element in considering the problem

of street railway labor is strikingly set forth at page 55 of the employes' brief in the following discussion of "the old theory of wages":

"During the past few years there has been a complete change in the principles which have previously been put forward as the economic justification for wage determinations. The old theory was that wages were determined by the law of supply and demand. Labor, in other words, was viewed as a commodity whose value was determined in the same way as other commodities such as wheat, coal, and iron and steel. Little, if any, consideration was given by the economists of past years to the human or ethical elements in the wage problem. Their point of view was that the supply of labor as a productive factor increased in geometrical ratio. Through the placing of this supply at any time over against the demand for labor, the rate of pay to labor was determined. In the event of any dislocation to or collapse in industry, labor was the residual sufferer. The evils arising from unrestrained competition, the cutting of prices, decreased industrial demand and industrial depression or collapse were by the alleged immutable laws of economics imposed upon the wage-earner. It is no cause for wonderment that industrial workers came under these pronouncements to look upon economics as the dismal science of despair. Under its principles they were without hope. Their only opportunities for advancing their well-being lay in producing goods faster than the labor supply increased, in reducing the birth rate, or, in the advent of some fortuitous pestilence, plague, or earthquake, or war, which would decimate the labor supply and thus give labor a greater bargaining power in dealing with employers.

"But the enlightened opinion of mankind refused to continue to give its sanction to such a hopeless theory of wage determination. More consideration came to be extended to labor as a human and moral being. Gradually the conception was evolved that human welfare was superior to considerations of relentless, economic selfishness. Industry came to be considered as existing for men and not men for industry. Industry, it was concluded, should be the servant and not the master of humanity. The verdict was accepted that any industry which could not operate under these humane and ethical limitations was anti-social. Labor was no longer to be considered as a raw material of industry or to be used and have its price determined as raw material."

CHAPTER IV

CREDIT AND COOPERATION THE COORDINATE NEEDS OF THE ELECTRIC RAILWAYS

It is clear from the preceding analysis that the two big things in the electric railway situation today are the need of credit and the need of cooperation. Credit will enable the electric railways to rehabilitate themselves, to adjust their capital accounts through the process of normal replacements to the higher price levels of the time, and to grow with their job. The cooperation of labor will enable them to render continuous and popular service, to effect operating economies and to get into their treasuries the full amount of revenue collected from the riding public. First class credit and the full cooperation of their employes, if properly utilized in rendering adequate public service, would give the electric railways a well-nigh impregnable position in their relations to the public, and would enable them to disarm and overcome the prevailing antagonism against them. With capital and labor doing their respective parts freely and well, restrictive regulation would be unpopular and the demand for the substitution of public ownership and operation for private management would shrink into relative insignificance. The test of private ownership and management lies in the solution of these two problems of credit and cooperation. These problems must be solved, and if no solution of them is practicable under the present ownership and control, then the only course open is the complete transformation of the electric railway industry into a governmental business. It may be that credit and labor cooperation cannot be secured without the cooperation of the public in a readjustment of the public relations of the industry, and it may be, on the other hand, that public cooperation in bringing about such a readjustment cannot be had until the companies have secured the necessary credit and the necessary cooperation of labor. If this proves to be the case, then the "vicious circle" of influences cannot be broken except by the discharge of the existing agencies and the liquidation of the public's obligations to them preparatory to a new regime in the electric railway world. It would appear that the Commission's problem is to analyze the factors affecting street railway credit and the cooperation of labor, with a view to determining by what policies and measures these essential conditions of effective public service can be brought about.

CHAPTER V

CONDITIONS IN ELECTRIC RAILWAY OPERATION NORMALLY FAVORABLE TO CREDIT

During the past two decades the electric railway industry has gone through a period of remarkable development. The special Census report for the year 1902 showed 4,774,000,000 revenue passengers carried and the Census report for 1917 showed 11,304,000,000 revenue passengers carried, an increase of nearly 137%. The net capitalization of electric railways reported by the Census Bureau grew during the same period from \$2,117,000,000 to \$4,889,000,000, an increase of about 131%. The Census figures also show that the mileage of single track grew from 22,577 in 1902 to 44,835 in 1917, an increase of just under 100%. The testimony before the Commission even indicated that in certain localities, notably in New England, the street railways were overbuilt during the first years after the introduction of electricity as a motive power.

After a period of rapid growth, such as that which has characterized electric railway development during the past 20 years, it would seem that the rate of expansion might slow down in a crisis, and that the demand for new capital might be greatly reduced over a considerable period of years if financial conditions were unfavorable. In fact, this process of curtailment in capital expenditures was enforced during the war by Federal action, as well as by the inherent difficulty of securing new materials and money to buy materials during that time. It is true that the readjustments of industry and population in connection with war activities required extensions and additional facilities in certain spots and that these particular extensions and improvements were imperative. In many of these cases, however, the Federal Government felt warranted, as a part of its war program, in advancing the funds required.

So far as credit requirements in normal times are concerned, certain characteristics of the electric railways and certain conditions under which they operate tend to make their credit easy and almost unlimited. In the first place, they have enjoyed a monopoly of the most convenient form of local transportation during a period of rapid industrial development and of rapid increase in urban population. They have a continuous and immediate market for their "goods." They sell transportation as it is produced. While electric railway traffic fluctuates somewhat from year to year according to the degree of business prosperity that prevails, and fluctuates somewhat from season to season, from week to week and from day to day, these fluctuations are relatively unimportant. The business of transportation goes on every day in the year. Local transportation is a necessity that grows out of the conditions of urban life, and the demand for it will not be greatly diminished except by industrial and social changes

that result in reducing the population of cities or in radically changing the habits of the people. I have already referred to the steady growth of the riding habit in the metropolitan district of New York over a period of 60 years and to the growth in the riding habit on the Stone & Webster properties in the South and West.

The increase in revenues of the electric railways is a product of three factors, all of which are going up. These are the increase in urban population, the increase in the riding habit and the increase in the rate of fare. The gross operating revenues of the electric railways grew from \$247,000,000 in 1902 to \$650,000,000 in 1917, an increase of 163%. For a number of years, particularly during the first decade of the century, there was a strong tendency toward fare reductions in many urban communities, but the figures just given show that for the country at large the total amount of electric railway operating revenues increased by a much greater per cent than the number of revenue passengers during the 15 years ended with 1917. Since the latter date, there has been a strong upward tendency in street railway fares. Statistics covering 75% of the street railway traffic of the country indicate an increase of nearly 14% in the average fare paid from 1917 to 1919, and an increase of about 22% in passenger earnings during this 2-year period. Without a doubt, the enjoyment by the electric railway industry of a steady inflow of revenue, of rapidly increasing volume, assured by the most fundamental conditions of modern life and the strongly developed habits of the people, is a condition extremely favorable to credit. In what other industry could investments be made with greater assurance of security and continued earning power?

But this is by no means the only condition in the electric railway industry favorable to credit. The tracks for the most part are in the public streets where everybody can see them. The operation of the cars is most conspicuous. It would be hard to find another industry where the investment is so completely visible and so easily observed by the entire local population. If publicity of operation is a guaranty against the waste or disappearance of capital, then the position of the electric railway where everybody can observe it every day, is surely conducive to the development and retention of credit. From this point of view, how different is a street railway investment from an investment in mining stock, or in fruit lands of the Far West, or even in manufacturing enterprises in one's home city!

Another thing that under normal conditions strengthens the credit of the electric railway business is its relatively small need for "fluid" or working capital. In this respect it occupies a position more independent than that of any other utility or any ordinary private industry. It does a cash business. Almost 100% of its revenues are collected in advance, through the sale of tickets, or at the very time when the service is rendered, through the collection of fares on the cars. The money flows into its coffers day by day in a relatively even stream. Before it pays the wages of its employes or the salaries of its officers; before it pays the claims resulting from injuries and damages; before it pays rentals for the use of property or interest and dividends on its investment; generally before it pays its taxes to the municipality or the state, it has already collected

from its patrons in cash full compensation for the service rendered. It does not have to manufacture and store up large quantities of service in advance of the demand for such service. It does not have to render the service for a month, or a quarter, or 6 months, and then send out bills to its patrons and wait an indefinite period thereafter before receiving its revenue. It has no uncollectable accounts to write off because of "dead-beat" customers. While it has to purchase in advance a certain amount of materials and supplies for use in operation and maintenance, and in some cases pays a fraction of its taxes in advance, these prepayments attributable to the cost of service at a given period are under all ordinary conditions much more than offset by the payments deferred until after the revenues are in. Under these conditions, a street railway operated on a sound business basis with conservative management would have very little need of working capital and would have no difficulty whatever in securing it in an emergency.

Moreover, it is now well recognized by street railway operators, valuation engineers and utility experts that a street railway in the usual course of its development is renewed and replaced piece-meal. Its individual parts have different useful lives and are replaced from time to time individually. After a certain number of years a street railway, under normal conditions of operation, will settle down to a depreciated condition, which in the phraseology of valuation engineers will be, perhaps, 70% of cost new. By proper maintenance, it can be held in approximately that condition permanently. The protection of the original investment demands either that the difference between the 100% originally put into the property when new and the 70% remaining in it after it has reached a normally depreciated condition shall be taken out of the earnings and returned to the investors, with a corresponding reduction in capital, or else that a depreciation reserve equivalent to this difference shall be accumulated and held as a fund for use by the company in connection with the maintenance and expansion of its facilities. It is not usually regarded as practicable to reduce capitalization to take care of this accrued depreciation. Most electric railways are growing, and it is usually more advantageous to re-invest the depreciation reserve in additions, extensions and improvements than to pay it back to the investors, reduce the capitalization and then turn around and increase it again in order to secure new money for such purposes. On account of these conditions, a sound financial policy would result in the accumulation of a reserve available for minor extensions and betterments and thus relieve the street railways of the necessity of going into the market for new money at unfavorable times. Even if the funds in such a depreciation reserve were invested promptly in the property so that the cash accumulations at any given time were small, the fact that the total physical property had been kept up to a level with the par value of the capital account, or of the securities outstanding against it, would immensely strengthen the companies' credit in a time of general financial stringency, and the street railways would be in the position of a favored applicant for such new capital as they imperatively required.

The capital stock of electric railways does not require to be refunded, and under a sound financial policy the proportion of stock to bonds outstanding

would undoubtedly be much greater than has usually been the case. This is well illustrated by the policy of the Cleveland Railway under the service-at-cost franchise that has been in force in that city during the past 10 years. There the amount of bonds outstanding at the time the Tayler settlement became effective in 1910 has been greatly reduced, and the amount of capital stock outstanding representing cash at par has been greatly increased, with the result that at the present time the Cleveland Railway has only about \$5,000,000 of bonds out, as against \$28,000,000 of capital stock. On this point significant testimony was presented at page 1587 of the Proceedings by Mr. Thos. L. Sidlo, of Cleveland, who for several years was associated with the city street railroad commissioner, and later became counsel for the Cleveland Railway Company. He says:

"It is unnecessary to rehearse the difficulties, embarrassments and tragedies in street railway history that have resulted from financing by means of mortgage indebtedness. It is pretty generally agreed by everybody who has made a study of street railway finances that it will be a happy day when the lienholder is eliminated from street railway ownership. His presence has been as hurtful to the company as to the community. He has been the chief cause of the spirit of absenteeism in street railway management and has probably done more to bring the industry into disrepute than the old-fashioned, 'Public-be-damned' operator. But how eliminate him? With an efficient cost-of-service plan, mortgage bonds are unnecessary as a mode of financing. A property can be financed by selling shares exclusively. And these can be sold to purchasers living in the community in which the utility is located, and should be so sold. The property will thus acquire an alert, informed body of owners, who will desire, along with security and certainty of return on their investment, that proper and adequate service shall be rendered the community. Such a body of security holders, and none other, will see to it that the property has a management that recognizes and is able to administer the profit-making aspect of the job not only, but the public service aspect as well. The value of this sort of ownership arrangement has been eminently demonstrated in Cleveland. The fact that at the present time there is relatively no bonded indebtedness but on the contrary a predominant body of resident share-holders, is making the Cleveland plan a success as much as any other factor."

It is true that under the old methods of promotion, street railway properties were financed chiefly, if not wholly, through the proceeds of bond sales, but in those days bonus stock was issued to the purchasers of the bonds, and the amount of capital stock in the nominal capitalization often greatly exceeded the amount of bonds outstanding. Later on, when state regulation became effective, the issuance of bonus stock was no longer permitted, and the condition of the companies' existing capitalization made it impossible to sell additional capital stock under the terms prescribed by state commissions, so that during the past 10 years the amount of street railway bonds outstanding has increased much more rapidly than the amount of stock. With this shifting in the nature of the securities, the importance of refunding operations in street railway finance has been increased.

Under a conservative financial policy, refunding difficulties would be almost negligible. The portion of the investment represented by capital stock would not have to be refunded, and the relatively smaller portion of the investment represented by bonds could be refunded as a matter of course, on account of the unusual security that would attach to street railway bond issues. It is true that if market conditions had changed from the time when the original bonds were issued it might be necessary in refunding to change the rate of interest. In times past, street railway bonds bearing 6% or 7% interest have often been refunded at 4½% or 5%. In like manner bonds bearing 4½% or

5% might have to be refunded at 6%, if at the time of their maturity the rate of interest had gone up. The process of refunding does not call for new capital. With an adjustment of the rate of interest in accordance with the conditions of the money market, an investor who already has his money in an electric railway would be satisfied to leave it there rather than go to the trouble of taking it out and investing it somewhere else at the same rate of interest. The thing that makes refunding operations difficult in an electric railway enterprise is some condition of insecurity or fear of insecurity that has intervened since the original bonds were issued. But the bondholders' sense of security would be strongly maintained, even in a great emergency, if a street railway had been conducted up to that time on the basis of conservatism and sound finance, with a proper depreciation reserve invested in betterments and a large proportion of the actual cost of the property represented by shares of stock.

If street railway credit is languishing or dead it must be the result of an extraordinary combination of causes, for in the entire industrial field it would be hard to find a business in which the inherent conditions are more favorable to robust and long life so far as credit is concerned.

CHAPTER VI

CONFLICTING EVIDENCE AS TO AMOUNT OF NEW CAPITAL REQUIRED ANNUALLY IN THE ELECTRIC RAILWAY INDUSTRY

General Guy E. Tripp, Chairman of the Committee of One Hundred appointed by the American Electric Railway Association to prepare and present to the Commission the testimony on behalf of the companies, in his opening statement, referred to the electric railway industry as having "an investment capital of something like seven billion dollars and an annual income of \$730,000,000" and as being "in extreme danger of complete collapse and dissolution" (page 67 of the Proceedings). He also referred to the electric railways as "an industry which requires \$200,000,000 of new capital each year and a larger sum than that for its refunding operations," and stated that this industry "cannot indefinitely remain in its present condition without an effect upon the financial system of the country" (page 67 of the Proceedings).

Mr. Henry G. Bradlee, President of the Stone & Webster Corporation, presented a diagram showing the amount of capital required in various industries to carry on a business of \$100,000 in gross earnings (page 202 of the Proceedings). This diagram had been prepared by Stone & Webster as a result of an investigation, undertaken about three years ago and extending over a period of about a year, to determine "the amount of capital required for various branches of industry." Referring to this diagram, Mr. Bradlee testified at pages 202 and 203 of the Proceedings:

"You will see from this diagram that the amount of capital required to carry on, for example, the construction business, that is a contractor, is low. A capital of less than \$50,000 will do \$100,000 of business. The same is true in what we have termed the trading; that means retail and wholesale business. In manufacturing, the capital appears to just about equal the gross annual business transacted. In mining, due to the large amount of investment in mining lands, mineral lands, the investment materially increases. Then we come to the group of public utilities, telephone, gas, electric light, street railway and steam railway, in which the capital required is from four hundred thousand to five hundred thousand dollars at least to carry on \$100,000 of gross earnings. Last of all is agriculture, which is even higher than public utilities.

* * * * *

"There is no other industry which apparently requires an operating plant equal to its annual gross earnings. The public utility requires a plant several times its annual gross earnings, from four to five times.

"Now this has a direct bearing on the earnings of the utility, the necessary earnings. If a retail merchant is able to turn over his capital three times a year and in turning it over makes $3\frac{1}{2}$ per cent profit on each turn-over he will make 10 per cent a year on his entire investment. A public utility, on the other hand, will turn its capital over only once in every four to five years and in order to make a reasonable return on that capital or rather to make the same 10 per cent, if it were 10 per cent, it would be necessary to pay out from 40 to 50 per cent of the gross earnings as a return on the investment. In other words, the trader or merchant may get along with $3\frac{1}{2}$ per cent profit and earn 10 per cent on his capital whereas the public utility must pay out 40 to 50 per cent of its gross to earn an equal return on the public utility capital.

"The capital requirements of the public utility are not as they are sometimes supposed, paid in in the creation of a property at the start and then continued at a more or less uniform rate. On the contrary, there must be, as Mr. Stuart told you, a continual contribution of capital year by year and month by month. The public utilities in all parts of this country are growing and growing steadily, and there is continually increased demand for service due to increased population and also to increased demand per capita in a given population, and to meet this increase in service it is necessary for the public utility to continually add to its investment.

"The addition of capital follows very closely the increase in business. I have brought with me here two charts of one of our street railway companies; they are identical. And on those charts you will see two lines. The black line shows the increased investment in the property, starting at the beginning of the period, and then running through the long series of years, adding each year the new capital which was invested that year, in that way producing the black line which you see on the curve. The green line is four times the increase in gross business, and those two curves, as you will see, run very closely together, showing that we have invested year by year four dollars of new capital for each dollar of increased gross business, and that it has been necessary to do that in order to adequately carry on that business and serve the public."

At page 203 of the Proceedings Mr. Bradlee introduced a statement with respect to the gross earnings and expenditures for construction of Stone & Webster companies for each year from 1902 to 1918, showing construction expenditures aggregating \$91,852,000 as compared with gross earnings of \$334,485,000. The figures in detail are as follows:

"APPROXIMATE GROSS EARNINGS AND APPROXIMATE EXPENDITURES
FOR CONSTRUCTION OF STONE & WEBSTER COMPANIES FOR THE
YEARS 1902 TO 1918, INCLUSIVE

<i>Year</i>	<i>Gross Earnings</i>	<i>Construction Expenditures</i>
1902	\$3,585,000.00	\$2,750,000.00
1903	6,338,000.00	3,623,000.00
1904	8,482,000.00	2,414,000.00
1905	9,504,000.00	2,900,000.00
1906	12,212,000.00	5,000,000.00
1907	13,776,000.00	8,500,000.00
1908	16,357,000.00	6,962,000.00
1909	19,133,000.00	5,703,000.00
1910	20,747,000.00	7,286,000.00
1911	21,389,000.00	9,077,000.00
1912	23,925,000.00	5,467,000.00
1913	26,305,000.00	7,531,000.00
1914	28,881,000.00	6,840,000.00
1915	27,044,000.00	3,371,000.00
1916	29,456,000.00	3,736,000.00
1917	31,029,000.00	5,001,000.00
1918	36,322,000.00	5,691,000.00
	\$334,485,000.00	\$91,852,000.00"

Mr. Bradlee stated that the figures above given were for all of the utilities operated by Stone & Webster, including street railway, gas and electric light properties. Out of a total of approximately thirty-five companies about twenty-five were either street railway, or combined street railway and light companies. He thought that these Stone & Webster companies "are reasonably typical of what has occurred in the industry." At page 206 of the Proceedings he gave the following additional testimony:

"The Chairman: Do you feel that the other companies have been devoting about as much money to new construction annually as you have?"

"Mr. Bradlee: About a year ago a report was made to Mr. John Skelton Williams outlining the conditions in the street railway industry. If I remember the figures correctly, the gross earnings of the street railways were placed in that report at \$1,500,000,000. It was estimated that the annual expenditures for extensions and improvements would be from

\$600,000,000 to \$700,000,000 a year. That would correspond very closely to those figures. Those figures would figure out just about \$600,000,000 a year on a gross business of \$1,500,000,000, so that the statistics which were gathered for all the companies correspond very closely with those for that group."

Later on, in response to questions asked by Commissioner Gadsden and Mr. Warren, the witness explained that his Stone & Webster charts included three utilities and then referred specifically to the capital needs of the street railway industry as distinguished from those of other utilities. This testimony is found at pages 207 and 208 of the Proceedings:

"Commissioner Gadsden: This statement you have rendered is a combined statement of the three utilities, gas, street railways ('water,' in the original), and electricity, is it not?"

"Mr. Bradlee: Yes.

"Commissioner Gadsden: If it were made up entirely of street railways as you have in the first chart the proportion of capital would be larger?"

"Mr. Bradlee: The proportion of capital would be larger on the street railway than on the other two.

"Commissioner Gadsden: This chart shows a proportion of about four and a half to one.

"Mr. Bradlee: Yes.

"Mr. Warren: That proportion holds true as regards additional or increasing earnings and increasing capital expenditures, as I take it.

"Mr. Bradlee: Yes.

"Mr. Warren: The proportion is larger than that, is it not, as regards the original or initial capital?"

"Mr. Bradlee: In some cases yes, and in some cases it would be about the same.

"Mr. Warren: In some cases it would run five or seven to one, would it not?"

"Mr. Bradlee: Yes, it certainly would. I might say that those figures you will understand are average figures. We have one public utility, a large water power, which was built entirely new and in which the investment is 10 to 1. So that those figures should not be used or considered as applying definitely to any particular industry. They simply represent the average of the group.

"Now to meet the requirements, such as those, we must sell securities. There is no other way to meet them. The earnings of the properties are not adequate to even meet operating expenses. I am speaking of street railways now—to meet operating expenses, taxes and interest on bonds in many cases. There is nothing left there to apply to extensions and improvement. It must all be obtained from the investor in some form and unless it is obtained from the investor it will be hopeless for the street railways to attempt to adequately serve the public. The service today is inadequate. It will continually grow more and more inadequate unless some means is found to improve the credit of the street railways and enable them to raise the money needed to meet these demands for further service, and that amount of money as is indicated in these figures is a very large sum in proportion to the gross earnings of the company.

"The railway industry as a whole must in some way, if it is to fairly serve the public, raise six or seven hundred million dollars a year for new work and in addition it must provide for the refinancing of maturing obligations to an amount varying from \$250,000,000 to \$300,000,000 a year, so that there is approaching a billion dollars a year to be raised in some way for the street railway industry in order to adequately serve the public."

Subsequent to the close of the hearings, in response to a request from the Executive Secretary for information as to the basis for General Tripp's estimate of \$200,000,000 as the average amount of new capital required by the street railways, Mr. James W. Welsh, statistician of the American Electric Railway Association, submitted the following data said to have been taken from the advance sheets of the 1917 special electric railway census:

YEARLY CAPITAL ADDITIONS BASED ON INCREASE IN NET CAPITALIZATION

Year	Net Capitalization	Yearly Increase
1902	\$2,117,619,302	.....
1907	3,400,107,899	\$256,498,000
1912	4,243,317,727	168,700,000
1917	4,889,962,096	129,400,000
Average Yearly Increase taken as.....		\$200,000,000

A reference to the last available special census report on street and electric railways shows that the "net capitalization" figure is arrived at in the following manner: The total capital stock, both common and preferred, the funded debt, and the floating debt and real estate mortgages are added to obtain the total capitalization. From this total is deducted the amount of stocks and bonds of other electric railway companies held and the treasury securities. This leaves the figure described in the census report as "net capitalization." From this, further deductions are made for "investments in other securities and non-railway properties" and also for "floating debt and real estate mortgages." In this way a gross capitalization of \$5,010,827,183 in 1912 was brought down to the \$4,243,317,727 figure used by Mr. Welsh in the data submitted as shown above. It will be noted that this figure includes only the net capitalization as reflected in capital stock and funded debt. If floating debt and real estate mortgages were added, as perhaps they should be, the net capitalization figure for 1912 would be \$4,545,576,769, or approximately 7 per cent greater than the figure used by Mr. Welsh for that year. However, on the basis of the figures which he used, it will be observed that the average yearly increase in net capitalization for the first five year period—from 1902 to 1907—was \$256,498,000; for the second five year period, \$168,700,000; and for the third five year period, ended with 1917, \$129,400,000. The average for the entire fifteen years figured out \$184,822,853, which is nearly 50 per cent more than the average for the five years from 1912 to 1917. Clearly, the use of the outstanding securities as a measure of new capital required is at best a very rough and uncertain way of estimating the actual cash requirements of the industry.

If it could be assumed that all new securities issued in recent years represented new cash investment at par, the results derived by Mr. Welsh's comparison would still be untrustworthy. This is true because of the effect of reorganizations following receiverships and other means by which the nominal capitalization of individual properties has been reduced at different times. The amount of new capital indicated by a comparison of the census figures would fall short of the actual amount of new capital required during any given inter-census period to the extent that securities outstanding at the beginning of the period disappeared through decapitalization before the end of the period. The census figures of net capitalization indicate a steadily decreasing annual average of increase, and if these figures were reliable it would be entirely inappropriate to use a sum in excess of the fifteen year average as an estimate of future requirements when the figures show that the annual requirements are steadily and rapidly decreasing, but for the reasons given a comparison based on net capitalization is wholly unreliable for the purpose of determining the amount of new money required each year.

In the memoranda submitted to Hon. John Skelton Williams, Comptroller of the Currency, under date of January 8, 1918, by a committee representing the American Electric Railway Association, the National Electric Light Association, the American Gas Institute, and the National Commercial Gas Association, the following statement is made:

"The electric railway, gas and electric light and power companies up to the beginning of the war were spending between \$600,000,000 and \$700,000,000 in new construction. Shortly after the outbreak of the war a drastic policy of retrenchment was generally adopted.

"They are now faced with the necessity of raising from \$100,000,000 to \$200,000,000 in new capital to furnish additional railway, gas and electric power and lighting facilities to shipyards, munition plants, cantonments, navy yards, and industry generally to meet the exigencies of the war program."

It was also stated in these memoranda that the funded obligations of public utilities maturing in 1918 were estimated at approximately \$232,000,000, and that the public utilities would also have to pay or extend bills payable, in the form of corporate unsecured paper held by banks, of approximately \$250,000,000 during the year 1918. The amount of bonds and other public indebtedness of the public utilities to mature in 1919 was estimated at \$265,000,000. In these memoranda the electric street and interurban railroads are referred to as "moving upwards of 20,000,000,000 passengers annually."

Mr. Bradlee, in the testimony quoted above, attributed an annual requirement of \$600,000,000 or \$700,000,000 of new capital, and of \$250,000,000 to \$300,000,000 of refinancing to the electric railways alone, whereas, substantially these same figures presented to the Comptroller of the Currency by the committee in January, 1918, referred to the three utilities—electric railways, electric light and power, and gas. The reliability of the committee figures is brought in question to a certain extent by its statement that the electric railways carry upwards of 20,000,000,000 passengers per annum, whereas, the United States Census figures for the year 1917 showed only 14,506,914,573 passengers in all, the revenue passengers alone numbering 11,304,660,462. The figures submitted by Mr. Welsh for the year 1918, based on reports from the companies who are members of the American Electric Railway Association, indicated that the total number of passengers carried in 1918 was somewhat less than the number carried in 1917. It is clear from this evidence and from other data collected for the Commission after the close of the hearings, that the traffic in 1918 remained at practically the same figure as in 1917, the last census year. Without having all of the data upon which the committee representing the three utilities made up their estimates of new capital requirements, it is impossible to say how much dependence should be placed upon the figures.

On account of the discrepancies between estimates of new capital requirements given by General Tripp and Mr. Bradlee in their testimony before the Commission, the Executive Secretary called the matter to Mr. Bradlee's attention and received from him, in a letter dated December 8, 1919, a further statement on the subject matter:

"My statement that the new capital required per annum for all public utilities is approximately \$700,000,000 was based primarily on certain memoranda and data prepared in January, 1918, and submitted to officials of the Treasury Department for their information. This data was prepared under the direction of Messrs. Gadsden, Hall and Crowell, and was finally printed in pamphlet form.

* * * * *

"On page 4 of this pamphlet, under item 6, you will notice an estimate of annual capital expenditures. Since this pamphlet was published, I have made some further inquiries as to capital requirements, and while I have obtained nothing in definite form which would be of value to you, all of the information which I did obtain tends to confirm the figure of \$700,000,000 as being approximately correct.

"As to street railways, I enclose herewith a typewritten statement giving figures obtained

from the United States Industrial Census of 1917 and from the Street Railway Journal of the same year. These figures give the total gross earnings and estimated capital investment for the street railway industry for the years 1902, 1907, 1912 and 1917. Comparing the capital investment in these several years, it appears, as is indicated on the enclosed sheet, that there has been an average increase in capital investment during the 15 years from 1902 to 1917 of approximately \$206,000,000 (should be \$267,000,000—D.F.W.) per year, an increase during the 10 year period from 1907 to 1917 of approximately \$230,000,000 per year, and for the 5 years from 1907 to 1912 approximately \$210,000,000 per year. This corresponds quite closely with General Tripp's statement that the street railway industry requires \$200,000,000 of new capital per annum, and compared with the data in the report to the Treasury Department would show that the new capital required for electric light and gas is from \$400,000,000 to \$500,000,000 per year.

"Comparing the enclosed figures as to capital invested in the street railway industry with the figures for the entire public utility industry given in the report to the Treasury Department, it appears that the total amount invested in the street railway industry is about half that invested in all public utilities. I think this is consistent with the estimates of increased capital required per year. The street railway industry, as we all know, has not increased in earnings and capital requirements during the past decade as rapidly as has the electric light, power and gas industry, especially the electric light and power industry. Ten or fifteen years ago most electric light and power companies obtained a very large percentage of their gross earnings from electric light and a small percentage from power. Through the introduction of the steam turbine and economies brought about through its use, and the establishment of large central power plants, it has been possible to sell power to manufacturers cheaper than the cost of production with a small power plant on the manufacturer's own premises. This has brought about a rapid expansion in the power business of central stations so that today many electric light and power companies are doing more power than lighting business and some have reached the point where lighting is almost a by-product of power. This has resulted in an abnormal growth of the light and power business and more than ordinary demand for increased capital expenditures. I think, therefore, that General Tripp's statement is conservative and that we may reasonably say that the amount of new capital required for the street railway industry is in the vicinity of \$200,000,000, possibly running a little over this amount.

"The requirements for new capital during the next few years for street railways may somewhat exceed this figure because during the war most street railways have been forced to postpone needed extensions and development and have been crowding their cars, track and power plants to an unreasonable extent and giving inadequate service. To bring the street railway back to the efficiency and character of service which existed before the war, this postponed expenditure must be made up as well as providing for future requirements.

"I would also call your attention to item 10 on page 5 in the pamphlet submitted to the Treasury Department. All public utilities have maturing bonds and notes to take care of each year, as well as providing for new capital. You will see under item 10 that it is estimated that maturing obligations of this kind for the entire utility industry would be during 1918 \$232,000,000, and during 1919 \$265,000,000. During the war such financing as has been done has been largely on short term notes which will fall due and require refinancing during the next few years. The credit of public utilities must be put into such shape as to provide for this refinancing on a more permanent basis as well as for new capital.

"You ask in your letter what I mean by capital requirements. It is my idea that this covers only money needed for extensions and additions to meet requirements for additional service. It does not include replacements or renewals of existing property. In all American cities, there is, as you know, a constant increase in demand for public utility service. This is created partly by an increase in population and partly by an actual increase in use per capita. In the letter which I sent you some weeks ago I called attention to the fact that the number of rides per capita on the street railways in which we are interested have increased during the past decade nearly 25%, and that in addition to this there has been a further increase in riding due to approximately 40% increase in population in the cities concerned. Because of this steadily increasing demand the normal condition of the public utility industry is one of growth. In this it differs fundamentally from a manufacturing enterprise. A manufacturing plant may successfully continue for many years without increase in capacity, and when an increase in capacity is made the owners of the property are free to extend the plant when and as they think best and to select a time when construction and financial conditions are favorable. The public utility on the other hand, because it is a natural monopoly, must constantly meet every increased demand for service if the public is to be adequately served. This means that there must be additions to the plant every year and such additions occur at a more or less uniform rate, especially if averaged over a considerable number of properties. This is indicated by the enclosed figures in reference to street railways. The public utility, therefore, is not free to make extensions when and as it thinks best and to select favorable construction and financing periods. It must have credit sufficient for constant growth in good times and bad, and must consider the raising of new capital and sale of additional securities as much a part of its regular business as the operation of its property. This is a peculiar

feature of the industry which is not always understood, but it is inherent in the nature of the business and cannot be avoided.

"To return a moment to the question of replacements and renewals. Most street railways at this time are not earning sufficient to make adequate provisions for such replacements and renewals. They must, therefore, for the immediate future and until net earnings are improved, issue additional securities (perhaps temporary in character) to provide cash needed for this purpose, or they must allow their property and service to deteriorate. This means for the next few years the sale of securities for this purpose as well as for actual new capital requirements and for refinancing maturing bonds and notes. It is hard to estimate just what the requirements may be for this purpose, but I think they may easily be 3% of the gross earnings of the industry or approximately \$25,000,000 per year. Of course this expenditure may be postponed by permitting the properties to further deteriorate, but this is undesirable from all points of view if it can be avoided."

The separate typewritten statement with respect to street railways alone, which Mr. Bradlee attached to his letter, is as follows:

ELECTRIC RAILWAYS IN UNITED STATES

(Data from U. S. Industrial Census of 1917 and Street Railway Journal, 1917.)

	1902	1907	1912	1917
Total Gross Earnings	\$250,000,000	\$430,000,000	\$586,000,000	\$730,000,000
Capital Investment	2,560,000,000	4,263,000,000	5,315,000,000	6,570,000,000*
	\$6,570,000,000			
	2,560,000,000			
	<hr/>			
	\$4,010,000,000	15 years (1902 to 1917)		
	\$206,000,000	per year (should be \$267,000,000 per year—D.F.W.)		
	\$6,570,000,000			
	4,263,000,000			
	<hr/>			
	\$2,307,000,000	10 years (1907 to 1917)		
	\$230,000,000	per year		
	\$5,315,000,000			
	4,263,000,000			
	<hr/>			
	\$1,052,000,000	5 years (1907 to 1912)		
	\$210,000,000	per year.		

* Estimated.

It will be observed that the figures representing the capital investment used by Mr. Bradlee are quite different from the figures used by Mr. Welsh in the data submitted by him. For example, for the year 1912 Mr. Bradlee gives \$5,315,000,000, whereas Mr. Welsh gives \$4,243,317,727 as the net capitalization. A reference to the special census report for 1912 shows that Mr. Bradlee's figures are not the net capitalization, nor the construction cost, but a combination of the gross capitalization and current liabilities. If net capitalization, based on street and electric railway property, plus floating debt and real estate mortgages, had been used, the census figure would have been \$4,545,576,769, or about \$770,000,000 less than the figure used by Mr. Bradlee for that year. It will also be observed that Mr. Bradlee uses for 1917 an estimated figure of \$6,570,000,000, as compared with Mr. Welsh's census figure of \$4,889,962,096. The final census figures show that the gross capitalization and current liabilities were \$6,115,804,332 in 1917, instead of \$6,570,000,000 as estimated by Mr. Bradlee. This indicates an exaggeration of approximately \$454,000,000 in his estimate. Upon

the basis of net capitalization, including real estate mortgages and floating debt, the figure shown by the census is \$5,056,554,324, or \$1,513,445,676 under the figure used by Mr. Bradlee.

In reducing the figures to annual averages he compares the entire fifteen year period from 1902 to 1917 with the ten year period from 1907 to 1917, and the five year period from 1907 to 1912, but does not show the average for the five year period from 1912 to 1917, which, on the basis of the figures used by him, would be approximately \$250,000,000. Moreover, in figuring the average yearly increase in investment for the entire fifteen year period Mr. Bradlee evidently made an error of computation. The result he gives is \$206,000,000, whereas by a correct division the result would be \$267,000,000. The different results obtained by Mr. Welsh and Mr. Bradlee by the use of census figures will be seen from the following comparison:

AVERAGE YEARLY INCREASE IN CAPITAL

<i>Period</i>	<i>Welsh's Figures</i>	<i>Bradlee's Figures</i>
1902 to 1907	\$256,498,000	\$340,600,000
1907 to 1912	168,700,000	210,400,000
1912 to 1917	129,400,000	251,000,000
Entire period 1902 to 1917.....	\$184,800,000	\$267,300,000

Obviously, nothing can be made out of this without an independent checking of the sources of information. If the basic census figures used by Mr. Welsh be modified to include floating debt and real estate mortgages, the results will be approximately as follows:

<i>Year</i>	<i>Net Capitalization Inclusive of Floating Debt and Real Estate Mortgages</i>	<i>Average Annual Increase</i>
1902	\$2,200,000,000 (Estimated)	.....
1907	3,683,094,801	\$296,600,000
1912	4,545,576,769	172,400,000
1917	5,056,554,324	102,200,000
Entire period 1902 to 1917.....	.....	\$190,000,000

In passing, it should be stated that the figures for "total gross earnings" used by Mr. Bradlee are not "gross passenger earnings" or "total railway operating revenues" but include also the electric railway companies' "income from other sources," or what is usually termed "revenue from other operations" and "non-operating income."

On the assumption that for every dollar of annual increase in revenue new capital to the extent of four or five dollars is required, it would appear from Mr. Bradlee's figures that the electric railways during the five years period from 1912 to 1917 should have required from \$576,000,000 to \$720,000,000 of new capital, whereas the increase in capital investment estimated by him was \$1,255,000,000. This tends to show that the basic figures used in the estimate of new capital requirements have been very loosely compiled, or that the yard sticks by which such requirements have been measured are very unreliable.

The data compiled for the Commission showing passenger revenues on systems doing 75 per cent of the electric railway business in the country in 1917 and 1919 indicate an increase of more than 20 per cent in gross earnings in this two year period. This is at the rate of about \$75,000,000 a year, and according

to Mr. Bradlee's rule of thumb would call for new capital of at least \$300,000,000 annually.

It is noteworthy that even the investment bankers have been confused by the testimony presented before the Commission with respect to the annual capital requirements of the electric railway industry. This is indicated by the annual report of the committee on public service securities of the Investment Bankers Association¹ submitted by O. B. Willcox, Chairman, in October, 1919, at the meeting of the Association in St. Louis. After referring to the appointment of the Federal Electric Railways Commission, and the hearings which the Commission held, the report proceeds:

"The street railways have needed about \$300,000,000 each year to refund maturing obligations and between \$600,000,000 and \$700,000,000 new capital each year for improvements and extensions to meet the demands of industry and commerce for local transportation. The destruction of street railway credit has effectually checked expansion and the deadening influences will be increasingly felt in every branch of industry throughout the country, until some new foundation for credit and investment has been found which will permit the profitable operation and the renewed and continuous expansion of street railway systems."

The confusion of the electric railway industry with the entire group of utilities whose needs were laid before the Treasury Department in January, 1918, has extended to the estimates with respect to refunding operations as well as to the needs for new capital. In the report just quoted the refunding requirements of the street railways are put at \$300,000,000 per year. This estimate is not borne out by the evidence presented to the Commission nor by other available information. In the Electric Railway Journal of December 29, 1917, appears an article taken from the Wall Street Journal, purporting to show that the aggregate of public utility securities to mature in 1918 amounted to \$210,427,780, of which \$126,817,030 was the total for the railways. Nearly one-half of this entire amount was represented by the \$57,735,000 Brooklyn Rapid Transit notes maturing in July. It was stated in this article that the aggregate amount of public utility securities maturing in 1918 was \$126,500,000 more than matured in 1917, and was "larger than any amount in the past five years."

In the preparation of the estimates of new capital requirements presented to the Commission, the witnesses for the American Electric Railway Association appear to have given no consideration to the possible reduction in the requirements for new capital due to the abandonment of unprofitable street railway lines and curtailments of service resulting from decreases in traffic due to increases in fare.

On the other hand, little or no attention seems to have been given to the fact that with the present high level of prices a given amount of new construction will require a much larger amount of new capital than in the days before the war. This fact, if given consideration, would tend to swell the estimates.

Moreover, on account of the prevailing high prices, new capital is required in considerable amounts in connection with the continuous process of replacements. No matter how well a street railway may be constructed and maintained, and no matter how sound the financial policies pursued with respect to it may be, the replacements required from year to year in an era of high prices will have to be made at a cost in excess of the original cost of the items replaced.

If, at the present time, rails, cars and other elements of street railway property cost twice as much as they did ten years ago, then a new car or a new piece of track installed at the present time in place of an identical car or piece of track that is worn out will require twice as much capital as was originally required. Under the system of accounts prescribed by the Interstate Commerce Commission and generally by the public service commissions of the states, the difference between the present cost of the new item and the original cost of the old item, even though the new item is identical in size and capacity with the old, has to be charged to capital account. The result is that in the process of making replacements during a period of high prices, the capital account is gradually adjusted to the higher price level, and for this purpose new capital must be provided even though no expansion or enlargement of street railway facilities is going on. Mr. Bradlee stated in his letter of December 8, 1919, that according to his understanding replacements were not included in the figures submitted showing new capital requirements. It is clear, however, that the portion of the cost of replacements charged to capital account and represented by capital securities or other corporate obligations would be included in the census figures used by Mr. Bradlee as a basis for his estimates. His rough figure of \$25,000,000 based on an allowance of 3 per cent of gross earnings for replacements apparently refers to expenditures that ought to be taken care of out of earnings, and not to the portion of the cost of replacements that is properly capitalized.

CHAPTER VII

AMOUNT OF NEW CAPITAL REQUIREMENTS NOT CLEARLY SHOWN, BUT NECESSITY FOR RESTORATION OF CREDIT PROVEN

It may be assumed that the tendency of the representatives of any industry, when they are endeavoring to enlist public interest and cooperation in its condition or affairs, will be to exaggerate its importance. In the case of the electric railways the uniform systems of accounts prescribed by the Interstate Commerce Commission and the various state commissions during the period of public regulation ought to have resulted in such a clarification of the financial transactions of the industry as to remove the excuse for loose or exaggerated figures. Most electric railway companies have for several years been required to submit detailed annual reports in accordance with forms prescribed by the commissions. In addition to this they have been called upon, in many cases, to compile and present financial statements to the commissions in connection with applications for the approval of security issues or for fare increases. In view of these facts, it is somewhat astonishing that the figures presented to the Federal Electric Railways Commission with respect to so fundamental a matter as the annual requirements of new capital should be so conflicting and unreliable. The need for the restoration and maintenance of street railway credit is the cornerstone of the companies' case. It is fortunate for them, and perhaps also for the public, that the proof of the need for a continuous inflow of new capital into the industry is not dependent upon the unsatisfactory and uncertain figures presented. The fact that new capital is required at the present time and will be required in the future is shown with sufficient clearness both by the general testimony of the witnesses and by the basic conditions of the industry that are brought to light by analysis.

I have already referred to the increasing demand for street railway facilities and service. Urban population continues to grow apace; the riding habit develops. While the evidence shows that in certain parts of the country the street railways have been overbuilt and that a considerable mileage of lines has already been or is likely to be abandoned in the present process of readjustment, and while it is unquestionably true that in many cities unnecessary trackage was constructed in the early days because of the competition of rival companies, nevertheless, these facts do not warrant the conclusion that extensions and additions are no longer required. The overbuilding in many cases has been in locations where the lines can never be used to their full capacity, and in some cases the shifting of population and business has even rendered lines relatively useless that at one time were in the highest degree useful. The shifting and spreading out of population, as well as the increase of population, are responsible for the demand for additional trans-

portation facilities. While the electric railway industry during a period of financial distress may properly curtail its program of extensions and improvements, this curtailment cannot be prolonged indefinitely. It is a matter of common knowledge that the year 1919 witnessed an immense revival of street railway traffic following the return of the soldiers from France and the demobilization of the National Army. It may well be that the experiences of the war have made the population of the country more mobile and that in the future traffic will increase even more rapidly than in the past. At any rate, there is no sign that for the country as a whole the business of local transportation by street railways is on the decline, or that the future requirements for additional transportation facilities will be materially less than the requirements of the past.

It is a well-known fact that in the bitter controversies which have arisen between the street railway companies and the public in most American cities, one of the principal causes of public hostility has been the failure or refusal of the companies to make extensions and improvements as rapidly as the people demanded. This has been particularly true of companies operating under limited-term franchises at times when their existing franchises had only a few more years to run. While it may be contended that the necessary extensions and betterments should be built out of depreciation reserves and that under certain conditions they might properly be built out of surplus earnings, it is clear that such a policy is less feasible now than it would have been a few years ago, since the electric railways are at the present time so greatly impoverished that many of them have difficulty in meeting out of revenues their ordinary operating charges and bond interest. It is hardly to be expected that depreciation reserves can be built up during these abnormal times to make good the depreciation which has already accrued. If such reserves are sufficient to take care of depreciation now accruing, it is about all that can be expected of them. But when a street railway has settled down to an equilibrium on the basis of the normal condition of an old property, the appropriation to depreciation reserve from year to year will be approximately offset by the calls upon the reserve for necessary replacements. Thus it is not to be expected that capital for extensions and additional facilities can be taken from depreciation reserves to any considerable extent, at least not until the electric railway industry has been put upon a sound financial basis and has had several years in which to get itself into good running order financially.

I have previously called attention to the fact that in an era of high prices new capital is required in the ordinary process of replacements. At a period like the present when the cost of materials and labor entering into construction is about double what it was before the war, the replacement of the entire property would mean a doubling of the capital account. If the high prices continue through a complete cycle of street railway life, this doubling of the capital account will be effected by degrees.

In 1918 the Board of Public Utility Commissioners of New Jersey passed upon the emergency application of the Public Service Railway Company for the approval of an increase in fares. In the report of the Board dated July 10, 1918,¹ an analysis of the company's appropriations to depreciation reserve and of its expenditures from the reserve for the 5 years from 1913 to 1917 is given. This

analysis shows that for the 5-year period the cost of replacements charged to depreciation reserve amounted to about one-half of one per cent per annum on the total fixed capital of the company as shown by its books. In figures, the amount taken out of the depreciation reserve for replacements averaged for the 5-year period \$447,862 per annum. These are figures for a company which had approximately 850 miles of single track. They indicate an annual expenditure of a little over \$500 per mile of track for replacements charged to reserve. If it be assumed that under the prices of the present year the same replacements would cost twice as much money, then it would be necessary to secure new capital to cover this increase in cost amounting to another \$500 per mile. If we apply this figure to the entire electric railway mileage of the country we get as a rough estimate of the amount of new capital required in connection with current replacements approximately \$22,000,000 a year. In this connection the question may arise as to whether the method of financing replacements prescribed by the uniform systems of accounts is the most advantageous one. In Cleveland, under the terms of the Tayler franchise, a different policy obtains. There the entire cost of new replacements is taken out of earnings and the capital account is not increased, no matter how great the difference may be between the cost of the new article and the original cost of the article which it replaces. Under the Cleveland plan this particular source of the continuing demand for new capital, and for the credit with which to procure it, does not exist. But the Cleveland plan tends to swell operating expenses and could not easily be adopted by street railways generally in a period of financial distress resulting from the shrinkage of the net income. The need of credit is in large measure created by the conditions and practices that have destroyed it, and the conditions and practices that would restore it would at the same time diminish the need of it. Thus, the Cleveland Railway, having reorganized its affairs some years ago, and put them on a sound financial basis, has now no need of credit in connection with this particular aspect of street railway development, but other street railways have the need and cannot readily at the present time take the steps that Cleveland took to do away with it.

Another factor entering into the present need of the electric railway industry for credit and the capital that credit brings is the run-down condition of many of the street railway properties. For example, the Bay State Street Railway system of Massachusetts was found to be in need of general rehabilitation, and when the act was passed in 1918 providing for the appointment of a board of public trustees to operate the Bay State lines, the State of Massachusetts deemed it necessary to provide \$4,000,000 of capital for this purpose on the credit of the state. It may be admitted that rehabilitation is not a capital charge. An electric railway that has been properly maintained out of earnings would not have to be rehabilitated. The need for rehabilitation arises from an extraordinary waste of capital resulting from neglect. Theoretically, it is unsound to maintain the old capital account intact and to increase it by the amount of new capital required in rebuilding a street railway property. Such a policy results in the inflation of the capital account and is particularly indefensible where the history of the enterprise has shown its inability to take care of itself. Nevertheless, many electric railways are now confronted by a condition and not a theory. Their

property has been neglected and a portion of their capital is gone beyond recovery. They have no reserve or other sources upon which to draw for the funds required to put the property back in shape where it can be maintained and operated so as to give adequate and continuing service. In such cases, even though the original capital account has been written down to the extent of the accrued depreciation, the money for rehabilitation can be secured only from new capital. That many of the electric railways of the country are in a condition where general rehabilitation in the near future will be necessary, was clearly shown by the testimony.

Irrespective, therefore, of the fact that the evidence laid before the Commission did not furnish an accurate measure of the amount of new capital required to keep the electric railways going and to enable them to function properly, it is clear that new capital is essential for the construction of extensions and betterments to meet the constantly increasing demands of population and traffic; to provide for the adjustment of the capital account to the prevailing high prices through the process of replacement and to provide for the general rehabilitation of properties where a portion of the original capital has been lost through neglect.

CHAPTER VIII

WHY HAS ELECTRIC RAILWAY CREDIT BEEN LOST?

I have pointed out the fact that the witnesses representing public regulatory bodies and those representing the general public were in substantial agreement with the witnesses for the companies with respect to the present deplorable condition of street railway credit. They also agreed that the problem before the Commission could not be solved unless some plan could be found for restoring such credit. We have already referred to the factors inherent in the street railway business that are favorable to the establishment and maintenance of credit, and have concluded that although the claims of the companies with respect to new capital requirements are inexact and may be greatly exaggerated, nevertheless there is no escape from the conclusion that under conditions now prevailing, and that are bound to prevail in the immediate future, a continuous flow of new capital into the industry will be required if it is to perform its full function and render adequate service to the public. No rehabilitation of credit can be successfully undertaken without an understanding of the causes which have led to its present debilitated condition. If the credit of this industry, with everything in its favor, has failed, an analysis of the causes of failure must precede the formulation of any plan for restoring it to health and vigor. For these causes we must look to the financial policies which have prevailed in electric railway management, and for which the electric railway companies themselves may be held, in large measure, responsible; also to the policies of public regulation with respect to this industry, for which the companies and the general public may be regarded as jointly responsible; and finally, to changes in economic conditions that have fundamentally affected the conditions of street railway operation, or of street railway finance. For these latter changes, neither the companies nor the car riding public can be held responsible, except indirectly and to a minor degree.

CHAPTER IX

OVERCAPITALIZATION A CAUSE OF THE FAILURE OF CREDIT

Upon the assumption that new capital is to be secured mainly through the sale of additional securities, it requires no argument to show that overcapitalization is a disease that strikes at the foundation of credit. Street railway stocks and bonds can have no value except as they represent actual property or actual earning power. The fact of overcapitalization in the early days of the electric railway industry was affirmed by many of the witnesses, admitted by others and assumed by still others, but there was a wide divergence of opinion as to the proper distribution of the historical blame for it and as to its present importance as a factor in the existing financial distress of the companies. The attitude generally assumed by the spokesmen of the companies is that even if overcapitalization existed as a result of unsound financial methods in the early days of the industry, we should now forget about it and "let bygones be bygones" in an attempt to get together for a solution of the acute problems of the present day. Clearly, overcapitalization cannot now be ignored in consideration of the problem of credit unless it has ceased to exist or through some change in methods of financing has ceased to have significance in that connection. The claim is made by some that the original overcapitalization has been overcome by the enhancement of the value of the physical property or by the recognition of intangible values which fill up the gap between the physical value and the par value of the securities. Here we must distinguish between an actual increase in the value of the property which may have resulted from appreciation in land and construction materials, or through enlargements made out of earnings, and a mere putative or fictitious increase in value due to the invention and formal recognition of various incorporeal elements. Credit cannot be conjured up for an overcapitalized concern by a mere fiat of regulatory authority. "Let there be value, and there is value," will not satisfy new investors.

Public regulation is not supposed to pay much attention to the capitalization of a utility. It limits earning power to a fair return upon the recognized value of the property. The owners are allowed so much as return on the investment and often they are at liberty to distribute this sum in any way they see fit among the security holders. Thus, under regulation, if a company were allowed an 8 per cent return upon a value of \$1,000,000, it could pay fixed charges of 5 per cent on \$1,500,000 of bonds and still have a margin of \$50,000 for the stock. A company in this condition would be greatly overcapitalized, but its capitalization might be ignored in the fixing of its charges for service. Sometimes these facts have led to a confusion of thought. Public regulation of rates may ignore capitalization, but that does not mend a company's credit when new capital is needed.

Bonds are insecure unless the value of the property is considerably greater than the face value of its obligations. Stock is relatively worthless even though offered for cash at par under public utility regulation, if it has to take its place beside shares already outstanding that have no intrinsic value. It is also maintained that in many cases initial overcapitalization has long since been overcome by reorganizations in foreclosure proceedings, but even so, it cannot be doubted that a trail of financial failure running through its past history is not conducive to present credit for a street railway company.

The question we have to answer here is this: Has overcapitalization been a potent influence in the undermining of electric railway credit? and, if so, do we need to say anything about it now?

Ex-President Taft, in his opening statement to the Commission, referred at page 4 of the Proceedings to the matter of overcapitalization. He said:

"It is charged that there has been a good deal of watered stock, and doubtless there has been—not of very recent years, I should think, because watered stock, to be useful, has to be disposable; and I do not think anybody can dispose of street railway stock except in banks that are run by gentlemen that have an optimism that would justify their being removed from the bank trust. That, of course, makes it most important that the situation should be considered in a large way."

Later on, at page 15 of the Proceedings, in response to questions by Commissioner Meeker, he expressed himself as follows:

"I think you ought to take into consideration that these properties do change hands, and that the people who are now sweating are not the people generally, who were guilty of those original 'rich' investments that have so reflected on the character of the investment, in stirring up the hostility of the people. * * *

"In other words, I think that those people who water stock and engage in other transactions that give property a meretricious value, get out from under the load as promptly as possible, and allow others to bear it. I think that is generally the history of these transactions. That cannot be defended."

Still further on, in response to questions by Commissioner Sweet, Mr. Taft testified at pages 17 and 18 of the Proceedings:

"Commissioner Sweet: In view of your quasi-parental relation to this Commission, would you recommend that we should go at all into the subject of past profits of these companies?"

"Mr. Taft: If you do, you will never get down to business. I can tell you that.

"Commissioner Sweet: Can you see any profit in an inquiry of that kind, in relation to the question that we are really to consider?"

"Mr. Taft: I do not mean to say that there may not be instances in which you ought to go back, just to determine the facts that you are trying to find out; but to entertain evidence of the corruption and the methods of ten years ago, or twenty years ago, and the history of transactions that have been made the basis for hostility to street railway companies, will occupy all your time, so that you will never get down to the real question, and I think you could separate the two by finding out what is the actual money that is invested now.

"Commissioner Sweet: The real question now has very little relation to big profits or corruption that may have been received or practiced years ago?"

"Mr. Taft: Except in its psychological effect upon the attitude of the public.

"Commissioner Sweet: Is it not an old sore that had better be left alone?"

"Mr. Taft: We declined to go into it.

"Commissioner Sweet: Don't you think we should decline to go into it?"

"Mr. Taft: Yes, I do."

General Tripp frankly admitted on behalf of the electric railway companies that overcapitalization in the past had been responsible for losses to investors and the development of public hostility toward the companies. His testimony is found at page 154 of the Proceedings, where he refers to the financial history of the

Metropolitan Street Railway Company of New York. This was in response to questions by Commissioner Sweet, as follows:

"Commissioner Sweet: How do you account for the prejudice in the public mind against these railway corporations? There is such a prejudice, is there not?"

"Gen. Tripp: Yes; and it is perfectly clear why it should exist. The Metropolitan Street Railway Company was largely overcapitalized.

"Commissioner Sweet: And overcapitalization is one of the reasons why the public is prejudiced against these companies?"

"Gen. Tripp: Yes. Large fortunes were made.

"Commissioner Sweet: Yes?"

"Gen. Tripp: They were made, however, out of capitalizing its future and selling the securities, and not out of the 5-cent fare rider. The 5-cent fare never produced more than a fair return upon the fair investment of the property, but hopes were capitalized, and hopes were sold, and the investors have lost money. But the car riders have not paid for it."

Mr. J. K. Newman, street railway engineer and banker, also a witness for the companies, was perfectly frank in his description of early promotion methods and the processes of inflation. His testimony on these points is found at pages 554 and 555 of the Proceedings, where he says:

"Now, the one thing that was uppermost in my mind always was the franchise; and I wanted to be sure that there was a 5-cent fare in the franchise, and that I had a franchise for as long a term as possible. I have repeatedly refused to be interested in street railway propositions that did not embody a 5-cent fare and a long-term franchise. This franchise gives an enormous value to the property, over and above its physical worth.

"The bankers were keen to see that. I want to confess to being a banker also, or I try to be a banker.

"Taking advantage of the situation, we commenced to capitalize. We capitalized the earning power, because we had a monopoly. If we did not have a monopoly, we went on and bought the other road, and put them together as a basis of some additional capitalization.

"The Chairman: Are you speaking now about the bankers?"

"The bankers and the street railway men. They work together always, and the result was that it was about as lucrative a business as there was in this country. The public got the idea, and it has it today, that the street railway men and the bankers associated with them made enormous profits, and that is true only on paper. It was true, in reality, in the early stage of the game, and the securities became very desirable, became generally distributed, and, next to steam railroad securities, were the most popular form of investment on the part of the general public."

Mr. Sisson, of the Guaranty Trust Company of New York, in discussing the attitude of the public toward the street railways, at page 327 of the Proceedings, said:

"It is in part justified, and in part blind, unreasoning ignorance of self-interest. It is justified in a measure, by some bad practices—bad financial practices and operating practices in the past, that have aroused resentment, and proper resentment, but from which the public have reacted to a point of antagonism that is just as unfair and unwarranted and unjustified as the actions which they themselves have criticised."

And further on, at page 328, in presenting an apology for overcapitalization, he adds:

"In the development of any new industry, like a railway or public utility, the investment banker very often finds it necessary, in order to secure direct investment in the obligation of the company, to give a profit sharing interest in the future of that company, in the form of a stock bonus, in order to induce investment. Where these things are a hazard, their profit earning is all estimated as a matter of guess-work, the speculative possibility in the situation is the only thing that attracts the investor, and stock bonuses have been given simply to make the direct offering attractive."

Another, but somewhat milder, apology for overcapitalization was presented by Mr. Bradlee at page 220 of the Proceedings, where he said:

"The question of issuing bonus stock as I see it has been this: rightfully or wrongfully, the practice developed of selling bonds in a new company and of selling preferred stock and

giving the purchaser of the bonds and the preferred stock a certain amount of common as a bonus; the idea being that the bonds and the preferred stock would represent their investment, the common stock would represent, as Mr. Tripp said this morning, their hopes; and if the proposition worked well, the common stock might be worth something; if it did not work out well, it would have no value.

"Now that practice grew up, I do not know when it started or where, but it did grow up, and there was a time when it was practically impossible to finance a new corporation without following that practice. You were in competition with that method, and the investor liked it, and if you were going to get the investor's money and get him interested in the enterprise you were more or less forced to fall in line to a greater or less extent with that method of handling the business.

"I think the public utility people recognized, perhaps not at the start, but many years ago, the fallacy of that method of financing. I think most of them would have done away with it many years ago if it had been in their power to do away with it and go on and develop the business. But it has taken time, and it is only gradually that the public have been perhaps educated up to a greater extent to handle the financing of such corporations in that way."

It remained for Mr. William J. Clark, of the General Electric Company, who stated that he built the first electric street railway in the world, to enter a qualified denial by saying that this question of overcapitalization is much overstressed, and that it does not exist to the degree generally claimed. His views appear at pages 137 and 138 of the Proceedings:

"To speak plainly, gentlemen,—I know the accusation has been made—there is far less water in the capitalization of the street railways than is generally supposed. There is some, but what now may seem excessive capitalization has been created to a greater extent through this continual change, change, change, through advancement in the art to better meet the requirements of the public in the way of service.

"Now, turning back, electricity did not bring about a manipulation of finance into the electric railway field. It began long before that, as I could trace for you if I had certain data, which I will have here tomorrow. A very large part of what may be considered overcapitalization today can be traced back to those periods.

"In the horse-car days, there were certain contracting concerns who used to do this thing in a sort of a way. They disappeared, almost all of them, with the advent of electricity. They were the fellows who built track with a 20 or 25 pound rail. As long as they had something to run cars over, on which to sell securities, bonds especially, they were contented.

"That, as I said, was more common in the days before the advent of electricity than afterwards."

So far as overcapitalization is concerned, the state of Massachusetts appears to be about the only bright spot in the country, as the result of anti-stock watering laws enacted many years ago. In fact, the capitalization of Massachusetts electric railways is frequently used as a yardstick to prove capitalization elsewhere. For example, Mr. Lauck, in his Argument and Brief, filed on behalf of the labor interests, cited the fact that in 1912 the street railways of the United States generally were capitalized at an average of \$104,930 per mile, while the figure for Massachusetts was only \$57,786 per mile. From this comparison, he inferred a total overcapitalization of 45 per cent or \$2,119,000,000 in the country at large. Yet the testimony shows that the Massachusetts lines have led the procession in the great Parade of Distress that has been going on during the past few years, and some of the apologists for overcapitalization appear to get considerable comfort out of this fact. Yet it is shown that even in Massachusetts there was considerable initial overcapitalization in certain cases. Instances are cited at page 10 of Mr. Lauck's brief, and Mr. Homer Loring, Chairman of the Board of Public Trustees operating the Bay State lines, refers to the matter at page 1642 of the Proceedings, where he says:

"In the so-called Bay State valuation in 1916, the Public Service Commission very liberally slashed capitalization to take care of what they thought—they thought there was evidence of an inflation in the early days of the company, so they took that out with great care. Of

course, we have had, as you understand, stock watering laws in Massachusetts which have been fairly effective since 1892, is it not, Mr. Warren?

"Mr. Warren: So far as street railways, it runs back as far as 1874 on the stock.

"Mr. Loring: Yes, but in the early days water did creep in in some few instances and the Public Service Commission in making its actual cost appraisal, as they did, took out many millions which they suspected, and I have no doubt rightfully so, was water."

Upon the question as to whether the Commission in its consideration of the present crisis in the electric railway industry and the possible remedies for existing evils should gloss over the redolent past, Interstate Commerce Commissioner Eastman's testimony is illuminating, particularly as he is fresh from several years of intensive study of the Massachusetts situation and of practical administrative responsibility for the formulation of public policies in that state. At page 2064 of the Proceedings, he says that, in considering what he would do if he were a member of the Federal Electric Railways Commission, he reached the conclusion that he would start off by enlarging upon and describing the importance of street railway transportation, and adds:

"Then I think I should frankly state the past evils from which many of the companies still suffer. I do not think it is desirable in any way to gloss those over. There is no doubt that overcapitalization has taken place in many cases, there have been extortionate rentals; bad financial policy; mismanagement in various respects. In some cases the history of the street railways in this country has been absolutely disreputable, as we all know. These facts ought to be frankly stated. At the same time, I think you ought to make clear that not all companies have been guilty of those practices in the past, and that some of them have done penance by reorganization, getting down to basic facts."

That overcapitalization cannot be considered merely as a "bygone," having no pertinency at the present time, is clearly set forth by Chairman William D. B. Ainey, of the Pennsylvania Public Service Commission. At pages 1390 and 1391 of the Proceedings, he says:

"When an epidemic touches a locality its effect upon the individual depends in part upon any organic or fundamental physical weakness which that individual possesses. It is an axiom, I think, that disease usually makes its most sinister attack upon the weaker organ of the patient. A physician in diagnosis would be recreant if he did not, therefore, take into consideration these fundamental difficulties in each patient. While analogies are not always logical, it is without question that the high costs of labor and material, the lessened purchasing power of the dollar, perhaps the changing riding habits of the people, have borne down upon the electric railway interests of the land most heavily in places where there are fundamental weaknesses in corporate history, management or general conditions.

"Shall we stop short of inquiring into these weaknesses? If, then, these higher costs are liable to be continued, the companies in order to survive and meet the responsibilities of the new conditions under which they are called upon to operate must not deceive themselves. They must not gloss over any organic difficulties if they exist, but even at the expense of much travail subject themselves to rigid self-examination. It has been remarked before you, I understand, that some companies have capitalized 'hopes.' It would be inexpedient for me to name or even have in mind particular companies, but making a composite statement of several to which my attention has been directed, let me inquire what you would recommend to public service commissions who were seeking to determine the fair return in the cases of companies which on outlays of from two million to three million dollars without an additional rail, spike, car or dollar of investment capitalized such properties at seven or eight million dollars. Where increases were not made on the basis of money invested or upon the physical value of the property devoted to public service, but the then or anticipated net incomes were capitalized, these incomes have necessarily been lessened by the increased costs. Naturally such companies do not wish to readjust their capital issues to meet present net incomes on the basis they were established, but they now desire to increase their income to meet their former increases in capital.

"The payment by the public of a fair return upon watered stock on the ground that that stock had passed into the hands of widows and orphans, no matter how just or equitable it might appear to the advocate of such a policy, nor how strongly entrenched in law, nor persuasive the argument as an *ad hominem* appeal, would with difficulty secure a consenting riding public to support it and would, of course, require changes in the organic law of every

state regulatory body of the land, for valuation for rate-making purposes is by law based primarily upon original costs and reproduction costs new, neither of which would respond to such a suggestion. Moreover, we would then be confronted by a situation in which the company whose capital issues bore fair relationship to the value of its property devoted to public service would be faring much worse than the one burdened with watered stock."

Dr. Milo R. Maltbie, who for many years was a member of the Public Service Commission for the First District of New York, also lays emphasis upon the evil effects of overcapitalization on credit. His testimony is found at pages 2091 and 2092 of the Proceedings:

"The street railway companies at the present time are laboring, among other things, under a great disadvantage in any attempt to secure new capital for equipment which could be operated, possibly, at less expense to the company and greater advantage to the public. One of the things to which I wish to call your attention as an explanation of that situation, and something which prevents readjustments being made that ought to be made, is the fact that in many instances the companies have been overcapitalized; that is, they are capitalized for a par value of stocks and bonds very greatly in excess of either the cost of the property as it stands today, or the value of the property. Of course, in such instances it is difficult to raise money, because those who are asked to accept the new securities fear that when the rates come before a public body for review, a public service commission, for example, the value of the property will be found at less than the par value of the securities, and that some of the securities—of course, the junior securities—will be placed in such a position that they do not get—not a fair return—but do not get an amount appreciably toward a fair return, and consequently there being no one to take the securities, there not being earnings sufficient to provide funds for their paying fixed charges and to purchase the property that is needed, there is no way of securing funds which might be used to advantage in the operation of the company, and the companies are compelled to go on with rolling stock, for example, which is not well adapted to the conditions that exist today."

The psychological effect of overcapitalization upon the employes as well as upon the riding public is clearly illustrated by the character of the argument submitted on behalf of the Amalgamated Association. That document dwells upon the fact of overcapitalization at length and cites many specific instances and methods of inflation. It exhibits resentment that the present crisis in street railway finances should be so generally attributed to advances in wages. Upon this point, at pages 9 and 10 of the brief, Mr. Lauck states:

"Exaggeration of the degree to which the present plight of the street railways of the United States is due to overcapitalization and to improper or unwise financial management would be difficult, if not impossible. No structure can stand whose foundation is rotten and whose framework is weak and loosely reared, and every examination that has been made of the street railway business of this country shows it to be such a structure. The testimony adduced is overwhelmingly conclusive, for there is no one so ignorant or so audacious as to deny that there have been overcapitalization and financial mismanagement. There have been, it is true, apologists for the practices responsible for this phase of the condition of the street railways. There are those who minimize its importance in connection with the problem now before this commission, and there are others who will agree with the Honorable William H. Taft in his statement to you that 'the subject is an old sore and should be left alone except in some cases where it will be necessary to go back and take judicial notice of the facts involved.' When as a result, however, of all the evils of indirect, unregulated, absentee ownership and through the application of the gambler's methods to the control and manipulation of the properties, we have almost universal excess capitalization, inflated claims of value, and reckless financiering in all its aspects, and the effort is made to attribute the predicament of the street railways to increased and undue labor costs, we submit that the public is entitled to the facts."

It is true that Mr. Warren filed with the Commission on behalf of the American Electric Railway Association a document entitled "Comparison of Valuation and Capitalization of 26 electric railways based upon letters to the A. E. R. A. and records of valuation and fare cases," dated August 11, 1919, purporting to show that the aggregate capitalization of these 26 companies was only 10.8 per

cent in excess of the valuations. This exhibit was vigorously attacked by Mr. Stiles P. Jones, of Minneapolis, who for many years has been a close student of public utility affairs throughout the country, and who appeared as a witness for the labor interests. Following Mr. Jones's testimony, Mr. Warren withdrew the capitalization exhibit for rechecking and such correction as might be found necessary. It was somewhat revised and subsequently refiled with the Commission, bearing the date of November 18, 1919.¹ This document does not even purport to disprove the charges of initial overcapitalization made against the electric railways. It merely tends to show that at the present time most of this early overcapitalization may have been absorbed by the increased cost of reproduction and by the recognition in certain cases of franchise and other intangible values in recent valuations.

The evidence is clear, uncontroverted, and almost unanimous that overcapitalization was a policy of the electric railways in the early days, that its ultimate effect upon credit was disastrous, and that both cause and effect persist at the present day. During the war period and even now, one of the urgent points made for the relief of the industry by means of rate increases, by removal of tax burdens, by public subsidies, or otherwise, is the paramount importance of saving the financial structure of the industry by keeping the companies out of receivers' hands. This appeal in effect asks that the public condone the past sins of the companies, and guarantee them against the normal results of the mistakes they have made and the unsound policies they have adopted. The companies say: Do not punish us, but forgive us and carry our losses. This raises an issue that makes a satisfactory adjustment of the relations of the public to the industry and a restoration of electric railway credit most difficult. The old sore has never healed; it is still draining the vitality of the industry. It cannot be ignored.

CHAPTER X

NEGLECT TO AMORTIZE EXCESS CAPITALIZATION

Another cause for the break-down of the credit of the electric railways may be found in the fact that they have steadily and stoutly resisted as a matter of policy any general writing off of initial excess capitalization as their earnings have developed. Their aim has been to "make the common stock pay," not to get rid of it. It is quite conceivable that under favorable circumstances an electric railway, starting out with the handicap of inflated securities, might nevertheless by a rigid policy of conservatism gradually reduce its capitalization or build up its property out of earnings so as ultimately to overcome the original unsoundness of its financial structure and get upon a living basis. It is doubtless true that some electric railways have invested earnings in improvements and extensions. It is also true that in some cases, in later years, the bankers have insisted in connection with new bond issues that sinking funds be established to provide for the ultimate retirement of the bonds. Nevertheless, it may be confidently stated that up to this time street railway bonds have almost never been paid except through a process of refunding. The street railways have adopted no effective policy for the reduction of their capitalization through the process of amortization. Of course, receiverships have resulted in a number of cases in reductions of capitalization, and occasionally, in the process of consolidation, a little "water" has been squeezed out where it was obvious that the amount of outstanding securities representing no investment did not even have "hopes" to sustain them, but in general every element of intangible value or claim of value that has once found its way into capitalization has been religiously retained and defended by the street railway interests.

On this particular point comparatively little evidence was produced before the Commission. Undoubtedly, the "water" in street railway securities is for the most part, though not entirely, represented by capital stock, which never falls due. The companies have known no easy way of reducing excessive stock issues, and ordinarily have not tried to find any. Where they have felt the necessity of doing something to overcome the baneful effects of initial overcapitalization on credit, their policy has been to build up earning power by scamping service or by other devices, and to pay dividends, or else to "forego" them for a time so that the surplus earnings could be put into the building up of the property. In the latter case, the hollow shell of capitalization furnished by the investors would be filled up out of the car riders' contributions, and the stockholders would graciously defer the declaration of dividends until the public had supplied the real capital on which the dividends could be paid. From the bondholders' point of view, a safer way of filling in the capital account would have been by the accumulation

of a sinking fund out of earnings for the retirement of the bonds when due. By this policy the cost of the companies' property, represented by bonds, would be gradually paid off from the contributions of the public, and the stockholders who contributed little or no capital to the enterprise would ultimately find themselves in possession of it free of debt. The bondholders, in this case, would be treated as temporary investors in the street railway business. They would "hold the fort" until the public could be induced or compelled to pay for the property and give it to the stockholders. But even this device for overcoming initial overcapitalization was seldom adopted.

At page 344 of the Proceedings, in response to a question about the adequacy of the 5-cent fare for the establishment of depreciation reserves, Mr. Sisson refers to the general failure of the companies to pay off their debts. The question and answer are:

"Commissioner Gadsden: If they (the electric railways) had set up, as they should have, a proper provision for depreciation, and extraordinary obsolescence, is it not questionable whether the 5-cent fare ever was an adequate compensation?"

"Mr. Sisson: Yes, and as a banker I very frankly think they should have gone further than that and set up sinking funds which would have provided for the liquidation of their indebtedness, which almost none of them have done, and they could not do it, as a matter of fact, out of the 5-cent fare."

The question as to whether the companies could have amortized a portion of their securities out of earnings will not stay answered in the negative by mere assertions to that effect at this late day, for the whole history of the industry proves that those in control of its policies have not tried to amortize, but have been intent on increasing capitalization at every opportunity. A notable illustration of the refusal to cut capitalization down to bed rock, even after bankruptcy, is found in the attitude assumed by the reorganizers of the Metropolitan Street Railway and the Third Avenue Railroad companies in New York. In these cases when the Public Service Commission tried to enforce upon the reorganizers the rule that the securities to be issued should not exceed the fair value of the property, the jurisdiction of the commission was successfully contested in the courts and its orders disobeyed. These men preferred to take their chances on the possible development of future earning power to support an excessive amount of securities, rather than content themselves with an amount of securities no greater than the value of the property at the time. General Tripp, in telling the history of the Metropolitan Street Railway reorganization at pages 147 and 148 of the Proceedings, stated that the par value of securities issued by the new company was less than the physical value of the property, and cited an appraisal by Ford, Bacon & Davis to prove this assertion. He made no reference to the fact that the Public Service Commission found quite the contrary. The methods by which appraisal engineers interested in promotion and finance often build up values to fit capitalization are from the public point of view and from the point of view of conservative street railway policy one of the scandals of public service regulation of the present day.

Some light can be thrown upon the general policy of the street railways to foster and maintain their overcapitalization by a study of certain of the properties listed in the schedule filed on behalf of the Electric Railway Association

comparing capitalization with valuation. For example, there is the Kansas City Railways Company, a reorganization of the Metropolitan Street Railway of Kansas City. The total capitalization is given as \$28,353,300, which is shown to be nearly \$5,000,000 less than the reproduction cost new of the property as fixed by the Missouri Public Service Commission in 1918. The property was *not* new at the time of the valuation. As to the capitalization, the exhibit shows the capital stock to be only \$100,000, as against \$28,253,300 of funded debt. A reference to Moody's Manual reveals the fact that this nominal issue of \$100,000 has been made the basis of 62,716.7 Preferred and 63,620.5 Common certificates of participation of no par value. If these certificates be counted at \$100 apiece, the \$100,000 of capital stock swells into \$12,633,720 of participating certificates.

The persistent overcapitalization of the Chicago Surface Lines could also be cited in support of the point here being emphasized. The New York, Kansas City and Chicago companies should have learned better by their own previous experiences with overcapitalization, shattered credit, and the ruin of bankruptcy. Many representatives of the electric railway companies still cite with indignation the enforced reduction of the capital stock of the Cleveland Railway in 1910, although it is now admitted on all sides that the Cleveland Railway Company today enjoys much better credit than the other street railway companies of the country.

Even in the Cleveland settlement, with its conservative valuation of the property, the value of unexpired franchises, superseded by the new arrangement, was permanently capitalized at \$3,615,843, and pavement which belonged to the city was permanently capitalized at \$1,897,357 plus the general overheads. In the recent arbitration upon the demand of the Cleveland Railway Company that the rate of return upon its capital stock be increased from 6 per cent to 7 per cent, witnesses for the company called attention to the fact that these items for franchise and pavement value are still in the capital account, and referred to this fact as constituting a serious impairment of the stockholders' security. And in fact the Board of Arbitration unanimously recommended an amendment of the franchise to provide for the accumulation of a reserve of not less than \$300,000 per annum, to be held in trust for at least ten years. Then, if the franchise is renewed, this accumulation of not less than \$3,000,000 would be put into betterments and extensions without being capitalized, and the process of building up the reserve during another ten-year period would be begun forthwith. If the city failed at the end of any ten-year period to renew the franchise, then this reserve would be held for the liquidation of the capital stock upon the expiration of the franchise 15 years later on.¹

If the Cleveland Railway, with its most unusual conservatism in capitalization, is still in need of a reserve fund for the amortization of intangibles in order that its credit may be properly maintained, what may we not allege as to the effect upon credit of the millions of dollars of franchise values, promoter's remuneration, superseded property and cumulative deficiencies that are depended upon in most of the electric railway properties as a warrant for the perpetuation of excessive capitalization?

CHAPTER XI

FAILURE TO AMORTIZE NORMAL ACCRUED DEPRECIATION

Still another cause of loss of credit which had its foundation in the speculative spirit that controlled the electric railway industry and in the lack of business foresight, or in the carelessness of future business results, was the almost universal practice of neglecting depreciation. We have discussed initial overcapitalization and the subsequent failure of the industry to adopt a policy of reducing the capitalization and of working the intangible and speculative elements out of it as the earnings developed. On account of the failure to provide for depreciation the credit of the business was further undermined by the gradual deterioration and partial disappearance of the physical assets representing the actual original investment. The electric railways appear to have assumed that the gradual attrition of their physical property would not decrease its value so long as it continued to be serviceable. The particles rubbed off in the process of wear, in their opinion, constituted a sort of halo of intangible value which stayed with the physical property and left the assets securing the original investment unimpaired. Indeed, this theory was even carried to the extent of covering with its mantle of hope the superseded mules, abandoned cables and other wreckage that marked the pathway of mechanical progress in the development of the local transportation industry.

The great confusion that exists with respect to depreciation and particularly with respect to the distinction between the normal accrued depreciation found in a well-maintained old property and the current depreciation that results from neglect of maintenance was referred to by Professor Mortimer E. Cooley in his testimony. Dean Cooley belongs to the school of engineers which maintains that for rate purposes no deduction whatever should be made on account of normal accrued depreciation. His discussion of the difference between the two kinds of depreciation is found at pages 263 to 265 of the Proceedings, where he says:

"The subject of depreciation is probably as little understood as any subject connected with a public utility. It is almost impossible, apparently, for even well-informed men to get a clear conception of what is meant by depreciation in connection with a utility company, particularly with an electric street railway property. I think the best way to present it is like this:

"When we build, when you gentlemen build a street railroad property, all the elements are brand new, the ties and the rails and cars, power houses, engines, dynamos, overhead wire, everything is new, brand new; it stands in what we call a 100 per cent condition. Some of these elements are long lived, some are short lived. An engine may last thirty years, a tie may last six, eight or ten years; a car may last in between somewhere. But the elements have different lengths of lives and it becomes necessary to replace them at different intervals. After the property has been running for ten or twelve years, say, or fifteen years, it will be made up of items some of which are brand new, some of which are partly worn out and some of which are all worn out. After it has been running through twenty-five to thirty years, the length of the longest lived element, it will be made up of elements of all conditions as to the length of remaining life.

"Thus, when you make an appraisal you examine these different elements and you find some standing at 100 per cent, some standing at 75 per cent, some standing at 50 per cent

and some standing at zero. But when you have taken the weighted average of all these elements you find they stand somewhere between 80 and 90 per cent of the original 100. In other words, there has been, say, 15 per cent of accumulated wear, or wear that has come into the elements, so that the 100 per cent condition is represented by an 85 per cent condition.

"Now here comes the point that is so hard to understand. It makes no difference if the property lasts a thousand years, the per cent condition in which it remains after it has come through its longest cycle remains practically constant, say, 85 per cent. You cannot raise that 85 per cent, if that is the mean, because in order to raise it you have got to throw away property before it is worn out. A tie will not be entirely worn out, a car may not be worn out, and if you replace them too soon you will bring up the average condition at the expense of property still usable.

"Likewise, you cannot let that property drop very much below, because then it becomes dangerous to operate and it does not render the service for which it is designed. Then the conclusion is this: that the 85 per cent condition that I am speaking of for all practical purposes throughout all life, whether ten years or thirty years or a thousand years, is the 100 per cent operating condition.

"Now you cannot have that 85 per cent except you buy it with 100 per cent. Thus you must allow the 100 per cent as the basis for rate making and not the 85 per cent. You cannot have the 85 except you pay 100 for it. It is the cost of the 85 per cent condition which is the maximum practical operating condition. All this money that comes into the treasury of the railroad comes through a property that necessarily exists at an 85 per cent condition.

"Now that is one kind of depreciation. You might call that a fixed depreciation. And the proper way, if you are not going to allow the 100 per cent as an earning, is to allow out of earnings something in the nature of a sinking fund. You must contribute to this sinking fund through an annuity taken out of earnings which in a given time, say the life of the franchise, will bring you back the difference between 85 and 100 per cent. So whether you allow the 100 per cent or allow the annuity, its equivalent, it comes out of earnings.

"Now the second depreciation—

"Mr. Warren: May I ask one question there. Suppose instead of a determinate franchise you had an indeterminate franchise, would you allow 15 per cent?

"Mr. Cooley: There would be difficulty in an indeterminate franchise to determine what the annuity would be.

"Mr. Warren: Because if a property was expected to last forever you would never make up the 15 per cent?

"Mr. Cooley: Not at all, and so I say we should always figure our rate of return on what it costs to get that property in its working condition.

"Now with regard to this second depreciation item. In order to keep this property in the 85 per cent condition you have got to renew elements as they wear out. Cars, engines, boilers, rails, ties, they all have to be renewed from time to time as they wear out, and you have to put aside a sum of money to do that work, to make these renewals. A car may wear out or it may become obsolete even when it is in splendid working condition, as was the case in Detroit with the old single-truck cars. They stood at a physical condition close onto 80 per cent and yet every last one of them was scrapped because the public demanded double-truck cars and they had to throw them away.

"Now this second fund that I speak of, to keep the property in the 85 per cent condition, has likewise to come out of earnings, and it is a much bigger amount than people think. And I could give you a demonstration of that. If you will take all the elements of the physical property which can wear out and take the length of life of those different elements and perform the arithmetical computations, you will find that the average life of the elements that can wear out is, say, 12, 13 or 14 years, something of that sort, the composite life. So that it is necessary to put into this fund for renewals somewhere around 6, 7 or 8 per cent of the items that wear out.

"Now it happens that the items that wear out are only about one-third or perhaps one-quarter of the total cost of the property. So when you spread this 6, 7 or 8 per cent over the total cost it means anywhere from $1\frac{1}{2}$, 2 or $2\frac{1}{2}$ per cent of the total cost of property has got to go into this renewal fund, or what is ordinarily spoken of as a depreciation fund, being a different fund from the one I first spoke of, namely, the one that makes up the difference between the 85 and 100 per cent."

I have cited Dean Cooley's testimony at length because it states so admirably the difference between the permanent depreciation here being considered and the current depreciation that will be considered in the next chapter of this report. In quoting Dean Cooley upon these points, I do not wish to be understood as assenting to his percentages or his theories as to the proper treatment of accrued depreciation. From his own description of the nature of permanent depreciation, it ought to be obvious that any ordinary street railway property cannot be kept

permanently in anything like an 85 per cent condition. The Tayler franchise prescribes 70 per cent of reproduction value as the standard of maintenance for the Cleveland Railway property. In the recent arbitration proceeding, Mr. Henry J. Davies, Secretary and Treasurer of the Cleveland Railway Company, testified that in his judgment the condition of the property was nearer 65 per cent than 70 per cent; yet he regarded the Cleveland Railway as the finest street railway property in the United States. His testimony on these points was given before the Board of Arbitration at Cleveland on September 18, 1919. It was brought out upon cross-examination by Judge Fielder Sanders, City Street Railroad Commissioner, who had appeared a few weeks earlier as a witness before the Federal Electric Railways Commission. The Cleveland arbitration record shows:

Cross-examination by Judge Sanders.

Transcript, pages 74 to 75.

"Q. Now, in the nine years of operation under the Tayler grant, fifteen or sixteen million of new stock has been issued, that is correct, isn't it,—renewal stock?"

"A. Yes, fourteen or fifteen million.

"Q. Various improvements and additions have been made, haven't they?"

"A. Yes.

"Q. The property has developed into a fine railroad property, hasn't it?"

"A. It is a good railroad property.

"Q. Do you know of a better surface street railroad company?"

"A. I do not.

"Q. It is the finest surface street railroad property in the United States, isn't it?"

"A. I am willing to admit it, you needn't argue it."

Pages 78 to 79.

"Q. What percentage of its reproduction value do you think the system is at now?"

"A. I think it is at a little less than seventy, nearer sixty-five than seventy.

"Q. Is it possible, Mr. Davies, to keep a system physically at a reproduction value of one hundred per cent?"

"A. No, unless you regard as part of the physical property a proper reserve in cash or otherwise to take care of the depreciation.

"Q. What is the usual standard of reproduction value maintained by street railroad systems?"

"A. Exclusive of any reserve for depreciation?"

"Q. Yes.

"A. I think less than seventy per cent.

"Q. It is about fifty per cent, isn't it?"

"A. If the system were not a growing system, a system to which additions were made from time to time, the average would be about fifty plus the salvage value, the value of the property as scrap, which might be ten per cent. In a growing city where investment is made, additional investment every year, on a system to which additions are made every year, in tracks and cars and power plant, in other property, the average would be higher, approximating sixty-five, possibly seventy per cent; because in the first case we may assume, I think, the property is one-half worn out, while in the latter case the depreciation on the new property does not get down to fifty per cent until the new property has been in use eight or ten years possibly.

"Q. Isn't it a fact that the best maintained public utilities including the best maintained street railways are not at more than fifty to fifty-five per cent of their reproduction value, isn't that a fact?"

"A. I think that they are at a higher average value than that, if you include in it the scrap value."

Page 80.

"Q. Your judgment is that the present street railway in Cleveland is maintained at sixty-five per cent or seventy per cent?"

"A. Nearer sixty-five than seventy.

"Q. The ordinance, then, has been substantially complied with?"

"A. Yes, except for that difference between sixty-five and seventy."

In its findings, published in December, 1919, the Board of Arbitration in the Cleveland case stated that "the valuation fixed upon the physical property at the time the franchise was passed was conservative and unquestionably by subsequent

improvements and betterments and liberal expenditures for upkeep, the property has greatly increased in value." In the memorandum opinion signed by the majority of the arbitrators, consisting of the chairman of the board and the company's representative, the condition of the property is described as follows:

"The evidence shows that this railway property has been maintained at a high standard; that it justly enjoys the reputation of being the best managed, best equipped and most successful street car enterprise in the country. We have been shown that a higher percentage of expenditure for maintenance and upkeep has been in force here than in other cities. Experts have analyzed the situation and presented the conclusion to us that by reason of efficient and intelligent executive management, and by reason of the high rate of upkeep and maintenance, a large appreciation in the value of the property has resulted."

Mr. James D. Mortimer, President of the Milwaukee Electric Railway and Light Company, and also (at that time) of the North American Company, testified before the Commission on July 24th, and again on October 3, 1919. His earlier testimony had primarily to do with his experience in Milwaukee with state regulation, and his theories with respect to depreciation. Upon his later appearance, he gave an extended analysis and criticism of the Cleveland service-at-cost plan, with particular relation to what he characterized as its failure to include adequate provision for depreciation in the cost of service and the rates. He also severely criticised on the same score the Philadelphia Rapid Transit Company's claims of profitable operation on a 5-cent fare. Mr. Mortimer does not clearly distinguish between the permanent accrued depreciation and the "second depreciation" described by Dean Cooley. Apparently, he does not share Dean Cooley's view that accrued depreciation leaves the investment unimpaired. It appears from Mr. Mortimer's testimony that Milwaukee is a shining exception to the general rule of electric railways with respect to the accumulation of a reserve to offset permanent accrued depreciation. At page 812 of the Proceedings, he says:

"We have, by the practical setting up of 22% of the operating revenues of the urban and suburban system, been able to accumulate, in the case of the Milwaukee Electric Railway & Light Company, a replacement reserve approximately equal to the estimated accrued depreciation, or the difference between reproduction cost new and so-called depreciated value, so that, so far as utility capital accounts are concerned, the utility has been maintained intact, and we have, as a rule, carried through that practice, irrespective of the return we were actually earning on this utility. We have shaded it in some years. That is, in the last year we did so, when it was necessary to show a sufficient margin over bond interest."

Just before this, Mr. Mortimer had explained to Commissioner Meeker at considerable length his idea of the purpose of a depreciation reserve, and had indicated that a reserve equivalent to the full amount of accrued depreciation is necessary in order to preserve the balance of the balance sheet. This, of course, is necessary only where the plant account on the assets side has been written down to a depreciated basis, which might occur in a case like that of the Milwaukee company after the original valuation of its property by the Wisconsin Railroad Commission or in a case like that of Cleveland, after Judge Tayler's valuation, with accrued depreciation deducted from cost new, had been written into the service-at-cost franchise. Mr. Mortimer's depreciation theories are fully set forth at pages 810 and 811 of the Proceedings, where he says:

"The purpose of accumulating a reserve for so-called depreciation is fundamentally to create a reserve out of earnings so as to insure the future replacement of the element of physical property at the end of its probable lifetime. No elements of physical property of the same class have all equalized. The lives of cedar trolley poles may vary from 8 to 20 years. There is, of course, as the statisticians know, one certain year in each class of

property where the number of replacements is at a maximum. Replacements or abandonment invariably begin within a very short time after the initial construction takes place. The curve of mortality of the elements of physical property, to the extent that such mortality curves have been computed or arranged, is quite similar to the curves of mortality of human lives.

"The problem of providing for so-called depreciation is not to provide for the wearing out, so much as it is to provide for the replacement. I am speaking now from the utility standpoint. Every utility is presumed to operate in perpetuity. Its obligations to operate and conserve its capital account do not necessarily terminate at the expiration of its determinate franchise, if it has such a thing. No rates of fare have ever been allowed which will amortize the value of physical property to its scrap value within the life of the determinate franchise. All the rates of fare provided for in any plan never make an allowance in amount greater than what will insure the replacement of the elements of physical property at the end of their probable lifetime.

"Now, we have a piece of track, which, for simplicity in calculations, we will assume has a life of 15 years. It is the duty of the utility to appropriate a sufficient amount of money out of its earnings which, with equal increments, if you please, each year, together with the interest upon the reserve balances, will provide a sum at the end of 15 years which will enable the utility to replace that element of property—a piece of track—to the extent of the original cost thereof.

"Now, that will apparently result in the creation on the balance sheet of the corporation of a liability very much larger than the amount that the corporation can use in any one year but the recognition of that liability is essential if the balance sheet of the corporation is to fairly show the assets and liabilities, because the balance sheet purports to represent fundamentally the liability of the corporation as a group of shareholders to the various creditors and the public, to the extent that the public is interested in the continued operation of the utility. By that, I mean that the depreciation or replacement reserve created by the method that I have generally indicated records the liability of the corporation to the utility to effect these replacements at the end of the probable lifetime of the physical property."

When Mr. Mortimer appeared before the Commission the second time, to discuss the service-at-cost plan, he undertook to show that Cleveland has been operating under a service-at-less-than-cost plan. Upon this point, at pages 1971 and 1972 of the Proceedings, he makes the following statement:

"One of the fundamental objections to the Cleveland franchise lies in the fact that the franchise does not require that any reserve for future replacements be accrued out of current earnings, thereby requiring that the replacements of the physical property be taken care of either through charges through current operating expenses or by suspending them for one year, two years, four years, and charging them up through the earnings of subsequent years. In other words, according to the Johnson-Goff appraisal, the Cleveland Railway started out with estimated accrued depreciation, the liability to effect future replacements, of about seven and a half million dollars. The capital was stated at something like \$19,000,000 net but that was represented by property having a value of \$26,000,000. It was depreciated in other words 30 per cent.

* * * * *

"Commissioner Wehle: Your point is that the valuation on the basis on which the rate was begun, as it was, was a valuation which was 30 per cent under the valuation based on present cost of reproduction?"

"Mr. Mortimer: And based upon the amount of money that had gone into the property into the physical property; in other words, taking into account just the investment of cash and the physical property, the security holders suffered a shrinkage of 30 per cent—a sacrifice of 30 per cent of the cash that had been invested. Since that time capital expenditures have been added, and all the money for those capital expenditures must come from the sales of new securities. The company has no surplus earnings of any kind whatsoever with which to create additions to its plant and property account."

Mr. Mortimer's difficulty here seems to be that he is unable to forget the permanent accrued depreciation that was written off the books in 1910. In this respect Cleveland shines in a little different way from Milwaukee. In Cleveland the amount of permanent depreciation was actually decapitalized; in Milwaukee according to Mr. Mortimer, the amount of the permanent depreciation was accumulated in a reserve fund which was invested in betterments and extensions. He alleges that the 30 per cent written off the cost new figure in Cleveland in

the 1910 appraisal was a sacrifice of cash investment. Secretary Baker testified that Tom L. Johnson had himself been active in the formation of one of the principal consolidations preceding the formation of the Cleveland Railway Company, and had described to him the method by which the consolidation had been effected. It involved the issuance of 5 shares of stock in the consolidated company in exchange for each share of stock in the several constituent companies. At page 997 of the Proceedings, he describes the transaction as follows:

"The Chairman: At the time when that plan was consummated can it fairly be stated that the stock of the consolidated represented as five to one of the stock of the constituent companies?"

"Secretary Baker: Substantially that. That was Mr. Johnson's general statement about it. There are no secrets in that business now because this has all been talked out in full in Cleveland, and the situation is so changed that nobody would object, I am sure, to my quoting Mr. Johnson's statements to me on that subject. Nobody has any sensibilities about it any more. But what they did was to turn in the hose, and they gave five shares of consolidated stock for each share of constituent stock, although the market value of the constituent stock at the time of the consolidation was very little, if any, above par in any of the constituent companies. Of course, what they were doing was capitalizing the advantages of consolidation and centralized management and the speculative advantages of the future growth of the city of Cleveland."

In view of Mr. Mortimer's statement, it is also interesting to note what Mr. John J. Stanley, President of the Cleveland Railway Company, says about the reduction of capitalization in 1910. At pages 993 and 994 of the Proceedings, the following question and answer appear:

"The Chairman: Do you regard the value of that plant as fair?"

"Mr. Stanley: No, sir; we were not satisfied with the valuation at the time the settlement was made. They cut our stock down from par to 55. I will frankly say that if we were allowed at that time about 80 we would have been satisfied."

Evidently, Mr. Mortimer as an outsider has a more intimate knowledge of the amount of cash invested in the Cleveland Railway property than those who were in the midst of the long struggle preceding the adoption of the Taylor plan.

In answer to questions by Commissioner Meeker, Mr. Mortimer elaborated his criticism of the Cleveland arrangement from the viewpoint of accruing depreciation. This testimony is found at page 1975 of the Proceedings:

"Commissioner Meeker: It puzzles me a little as to how the company can get away with a three-cent fare if it has not made the proper reserves for depreciation, replacement and so forth.

"Mr. Mortimer: It is not permitted to make these reserves under the terms of the franchise.

"To give you an illustration of that: The company started out with an accrued depreciation on its property of, in round figures, seven and a half million dollars. The accrued depreciation on its property today is, in round figures, \$12,000,000.

"Commissioner Meeker: That is, the plant is continually wearing out.

"Mr. Mortimer: Yes.

"Commissioner Meeker: And it is not replaced?"

"Mr. Mortimer: No, I do not mean that. Its liability to effect future replacements has increased from seven and a half million dollars at the end of the year 1909 to \$12,000,000 at the end of the year 1918. That is, the liability of the company to effect future replacements of its physical property, assuming that it is to continue in operation. That is the liability over and above the amount of replacements.

"Commissioner Meeker: The period of reckoning has not yet come, but it hangs off in the future?"

"Mr. Mortimer: It is exactly the same problem as confronts assessment life insurance companies. There is no one of us that would care particularly to buy any large quantity of insurance, life insurance, in an assessment life insurance company.

"If any of us wanted to buy insurance, we would go to a legal reserve company, a company that created a reserve against the accruing liability because of future deaths. We have that exact, same problem in providing for the replacement of physical property. The courts

have all held that. They have supported it. It is the universal theory of providing for maintenance and depreciation adopted by regulating commissions in the determination of rates.

"Commissioner Meeker: Is my understanding correct, that the day of reckoning has not yet come, but it will eventually come, and the company will either have to get more liberal terms or be forced into bankruptcy—either the company or the city, I don't know which?"

"Mr. Mortimer: The day of reckoning for the company would come—if the property was currently maintained—the day of reckoning for the company would come at the end of the franchise. It might have to suffer on negotiations with a substantial loss in its invested capital."

It is clear that Mr. Mortimer's criticism harks back to the failure of the Cleveland franchise to establish a reserve for the amortization of the accrued depreciation that was written off the books in 1910, and for the amortization of the permanent depreciation of property installed since that date. The talk about liability to effect future replacements is based on the exploded theory that the 30 per cent representing permanent depreciation ever can be replaced. According to Dean Cooley's analysis, which in this respect appears to be sound, it will never be necessary or even possible to restore this accrued depreciation by renewals or replacements. It is permanent; it will remain for "a thousand years," if the property lasts that long. As to the current depreciation and the replacements required from time to time to keep the property continuously in standard operating condition, the evidence seems to be conclusive that these costs have been fairly met by appropriations from earnings. With current maintenance and replacements taken care of in this way, it is reasonably clear that under the Cleveland franchise there is no substantial accumulation of omitted or deferred maintenance that will result ultimately in the need for a general rehabilitation of the property. The only thing not provided for by the annual maintenance and depreciation is the permanent accrued depreciation on the new property installed since the Tayler settlement went into effect. Roughly, that would ultimately amount to 30 per cent of the new capital invested since that time. As neutralizing the effect of this accruing depreciation, it should be recognized that the Cleveland franchise prescribes a peculiar rule with respect to replacements. The uniform systems of accounts prescribed by the Interstate Commerce Commission and by the state public utilities commissions provide that where a replacement is made of an identical article at a higher cost than the original cost, the difference between the original cost and the replacement cost shall be charged to capital account. In this way the capital account is gradually readjusted through the process of replacement to the higher scale of prices. The Cleveland plan, on the other hand, requires that the entire cost new of the replacement, if it is identical in size and capacity with the article replaced, shall be charged to current maintenance, no matter how great the increase in the cost of the article may have been. While prices are going up and until the street railway lines have gone through a complete cycle of renewals at the higher price level, this system tends strongly to conservatism in the capital account. It is immensely more conservative than the reproduction-cost-new method of valuation advocated by the American Electric Railway Association and generally by the valuation experts appearing for the electric railway companies in rate cases. It is even more conservative than the actual cost method, because it prevents the readjustment of book cost to the higher prices, which is something entirely consistent with the actual

cost method as advocated by those who believe in the Massachusetts theory of valuation.

Dean Cooley's 85 per cent standard for street railways is based upon assumptions that appear to be quite untenable. In his testimony, above quoted, he says that "the items that wear out are only about one-third or perhaps one-quarter of the total cost of the property." How he arrived at such a conclusion would be a mystery, if we had only his testimony before the Commission to go by. It is quite evident that tracks, paving, cars, electrical equipment, buildings, machinery, etc., wear out in time. That these elements should represent only from one-quarter to one-third of the cost of the property seems quite absurd on its face. But light is thrown on Dean Cooley's methods and theories by his valuation of the Public Service Railway property (of New Jersey) to which extended reference was made in the testimony before the Commission. In that case, he classed as undepreciable the following elements of property: land, grading, ballast, track and roadway labor, and all overheads except contingencies. These undepreciated overheads alone constituted about 40 per cent of the estimated base cost of the physical property. It seems reasonably obvious that at least 75 per cent of the physical property of an ordinary street railway is subject to depreciation. Clearly, the 70 per cent standard set up in the Cleveland franchise is a much safer one to go by than the 85 per cent standard based upon Dean Cooley's reasoning and estimates. This means that in order to keep the legitimate investment in an electric railway unimpaired, the original capital should be ultimately reduced about 30 per cent, or else as an incident of growth a reserve equivalent to 30 per cent of the original capital should be built up out of earnings and invested in betterments and extensions in order to protect the integrity of the capital account and preserve the credit of the enterprise.

I am referring here to the normal and necessary permanent depreciation of a street railway property, and to the inevitable supersessions that have taken place. The companies now generally make the claim that a well-maintained old property is as good as a new one, and worth as much, certainly for rate purposes. The report of the Committee on Valuation of the American Electric Railway Association¹ is most emphatic in the assertion that accrued depreciation should not be deducted from reproduction cost new in the determination of value for rate purposes or for sale to municipality, state or government. It is claimed for the companies that their revenues were insufficient to enable them to provide for depreciation. But who knows—when they never tried? They lived in "a fool's paradise," to use General Tripp's phrase, and did not think it necessary to try.

In this connection consideration should be given to the fact that the City of Glasgow, Scotland, has been able to amortize its entire investment in its electric tramway system out of the earnings, and that Liverpool and other British municipalities have gone a long way in the same direction, in spite of the fact that the average fares collected on these British lines have been exceedingly low. Moreover, the city of San Francisco, which has been operating an incomplete but growing system of municipal railways since December 28, 1912, on a 5-cent fare, was able to accumulate a depreciation fund during the first six and a half years, up to June 30, 1919, amounting to \$1,258,323, or more than \$20,000 per mile of

track owned at the end of the period.² It is doubtless true that some of the electric railways of the country could not have paid all their operating expenses and taxes, earned a fair return upon the original investment, and also amortized the accrued depreciation under a 5-cent fare, but it is by no means certain that the majority of them, including those which serve the great urban communities of the country, could not have done so if they had started out with a conservative capitalization, and had recognized the importance of maintaining a parity between their capital accounts and the depreciated value of their property.

At the present time, their policy is to deny the impairment of their capital through accrued depreciation, and to overrule the repeated decisions of the United States Supreme Court upon advice of their consulting engineers. With respect to the financial policies of electric railways so far as they have a bearing upon credit, it may well be said that "whom the gods would destroy, they first make mad." Who can doubt for a moment that the failure to amortize the portion of the original investment represented by the difference between the cost new of a street railway property and its "per cent condition" when it has come down to the level at which it can be permanently maintained has been a factor tending to undermine its credit? Who can suppose for a moment that the policy of retaining superseded property in the capital account, even if it be approved by commissions and courts, could be other than disastrous to the permanent credit of the electric railways? This is one of the fruits of initial overcapitalization. The history of the electric railway industry has demonstrated the necessity of conservatism in capitalization as a prerequisite to financial soundness and adequate credit. It is not so long ago since the industry was started that the men then in control of it could not have foreseen at least in some measure the requirements of the situation, if they had been actuated primarily by desire to render public service rather than to exploit for personal profit the needs of the urban public and the possibilities of electricity. It is now generally admitted that the men who launched the electric railway consolidations and other deals through which the securities were heavily "watered" made their fortunes by disposing of their holdings, not by keeping them. On this point, General Tripp's testimony at page 155 of the Proceedings is significant. Questions by Commissioner Sweet brought out the following:

"Commissioner Sweet: The individuals who were chiefly responsible for that, and who made money out of it, are they still in the business, or, for the most part are they out of it, and have they turned over the capital to innocent purchasers?"

"Gen. Tripp: Of course, that question is a general question, and there may be exceptions.

"Commissioner Sweet: Oh, undoubtedly.

"Gen. Tripp: I should say it would be found that very few of these electric railway securities will be found in the strong-boxes of the estates of the men who originally promoted them."

All this goes to show that provision for accrued depreciation was far from the thoughts of the manipulators. "Where there's a will, there's a way," but where there was no will, there was no way.

CHAPTER XII

PAYMENT OF UNEARNED DIVIDENDS AND NEGLECT OF ORDINARY MAINTENANCE

In the preceding chapter of this report I have considered the failure of the electric railways to amortize normal accrued depreciation. The next thing to be considered in the analysis of the financial policies that have contributed to the ruin of electric railway credit is the fact that in many cases they have neglected current depreciation to the extent of putting dividends ahead of maintenance. No matter what difference of opinion may exist among engineers and economists with respect to normal accrued depreciation as an impairment of capital, there can be no difference of opinion as to the effect of "deferred" or "omitted" maintenance upon the integrity of the investment. Yet many electric railway companies have been known to pay dividends while they were neglecting maintenance, on the theory that it was necessary to continue to pay dividends in order to maintain their credit.

It is Dean Cooley's "second depreciation" that we are concerned with here. Without agreeing to his percentages, we may readily admit the validity of the general distinction which he makes. But his "second depreciation" is, according to his own analysis, swallowed up in maintenance. I do not mean to contend that no depreciation reserve whatever is needed for this particular purpose, but merely that the purpose of this reserve is to even up the charges for maintenance and renewals so as to avoid violent fluctuations in operating expenses from year to year.

I have quoted Mr. James D. Mortimer at length in the preceding chapter, but his testimony with respect to depreciation was so important, even if somewhat confusing, that I shall quote him again. In spite of the severe criticism which he leveled at the Cleveland plan, he does not seem to attribute to the Cleveland property any neglect of maintenance which, according to the testimony of the Massachusetts witnesses, leads to a deterioration that ultimately requires a complete rehabilitation. In other words, he seems to admit that the Cleveland Railway is in what Dean Cooley would term a 100 per cent operating condition. What he is troubled about is not the ultimate replacement of the physical property but its "financial replacement" when the franchise expires. This point is brought out in his answers to questions by Commissioner Wehle and Mr. Warren at page 1983 of the Proceedings, as follows:

"Commissioner Wehle: But the existing property as I understand is in good condition.

"Mr. Mortimer: Oh, it is in good condition for the purpose of running cars over it, but that does not in any way reduce the liability of the company to replace that property at some future date. The question of good condition is a factor entirely separate from the factor of financial replacement.

"Commissioner Wehle: Your idea is, then, is it not, that the companies which may come

to own these properties at the end of the period of the contract are running the risk all the time lest the properties will not be kept in good condition and that although the properties are in good condition at the present time, yet in the period intervening between the present and the expiration of the contract between the companies and the city there are many possibilities, and that there has not been such a reserve as according to the bookkeeping standards of public service companies heretofore would sufficiently protect the company.

"Mr. Mortimer: Mr. Commissioner, it is not so much a question of operating condition, or as you say good condition: it is a question of protecting themselves against second hand value at the end of their franchise period.

"Mr. Warren: They would have to do it, if there was no end to the franchise, would they not?

"Mr. Mortimer: Yes.

"Mr. Warren: Under an indeterminate franchise?

"Mr. Mortimer: Under an indeterminate franchise it would be required because all indeterminate franchises carry with them some right on the part of the state or municipality to purchase or condemn the property and they always have to look out for the conditions that may obtain at the time of condemnation. And testimony of engineers that the property was in 100 per cent condition would not absolve the company from having to meet the liability for the second hand value of the property."

Upon being pressed to explain the point of view of those who differed with him in regard to the merits of the Cleveland depreciation policy, Mr. Mortimer continued at page 1984 of the Proceedings, as follows:

"It is typical of, say, the Boston Elevated Railway. The Boston Elevated Railway, as I understand, in the days when it was paying dividends and its stock was selling in excess of par, reached the conclusion that a depreciation or reserve of \$1,000,000 was adequate, and thereupon declared dividends up to the amount available after providing a reserve of \$1,000,000. This was not an annual reserve. They said, 'We will take care of maintenance and replacement through operating expenses. We will always try to maintain our reserve at \$1,000,000.' And I think they did maintain it at \$1,000,000. But the character of rolling stock and the condition of maintenance of the physical properties of the Boston Elevated is indicative of properties that take that viewpoint, that they can provide for modernization of their equipment, write off obsolete property and plants through current maintenance expenses. They do not do it. Now, that is one of the fundamental things that is wrong with the electric railway business. It is one of the things that is wrong with the Massachusetts Electric Railway situation.

"Commissioner Welke: That they have never charged off to depreciation enough and never have set up depreciation funds in the whole history of the industry?

"Mr. Mortimer: Generally the electric railways of Massachusetts have not created depreciation reserves, neither did they appropriate or spend out of earnings sufficient money to keep their properties in modern condition.

"Commissioner Mahon: Has not that been the fault of the whole country, not only of Massachusetts but of the entire industry, it never created a depreciation fund sufficient?

"Mr. Mortimer: I think, Mr. Commissioner, that that is a fundamental defect in the business. There are some exceptions to the rule."

Mr. Mortimer's reference to the past policy of the Boston Elevated Railway Company as practically the same as the policy enforced upon the Cleveland Railway Company does not appear to be consistent with the facts brought out by various witnesses and by records filed with the Commission with respect to the actual present physical condition of the Cleveland Railway as compared with that of the Boston Elevated when the Public Trustees took possession, July 1, 1918. In the one there is very little deferred maintenance; in the other there was a great deal. The credit of one was the best in the country; that of the other had disappeared.

In this connection Interstate Commerce Commissioner Eastman's testimony is illuminating. At page 2058 of the Proceedings, where he is reciting the various causes for the present unhappy condition of the electric railways of Massachusetts, he says:

"Now, in the fifth place, and this is true not only in Massachusetts but in all other parts of the country, there has been the ordinary failure to care for depreciation; the need of caring for that was not recognized and depreciation was not cared for."

A little further on in his testimony he refers to the sources of strength of the street railways of Massachusetts, and speaks of the advantages they enjoyed because they had a plentiful supply of local capital as a result of favorable laws exempting street railway securities from taxation and placing them under strict regulation. He then proceeds, at pages 2059 and 2060 of the Proceedings, as follows:

"That in a sense it has developed into a sort of weakness is rather a paradox. At the same time, I think it is true. In other parts of the country the exploitation which took place resulted in early smash. That came about in Cleveland, that came about in Chicago, and I think in other large cities and they had to begin all over again about the year 1907, and they started in on a depreciated basis and proceeded to rehabilitate the property and they have since had the advantage of that rehabilitation.

"Now, in Massachusetts, the fact that the securities were regulated and the capitalization was relatively low resulted in prolonging the life of the companies until they began to receive the full effects of accrued depreciation and they are suffering from that now. If you go back 10 or 12 years, Massachusetts was, I think, receiving as good railway service as any part of the country. We used to boast of the street railway service we received at that time and we were proud of the service which was being given in Boston in comparison with the service which was being given in many other large cities. But at the present time the failure to take care of depreciation, added to the other elements and factors which have entered into the situation in recent years, has resulted in a very weak and undesirable situation."

Still further on, at pages 2061 and 2062 of the Proceedings, Commissioner Eastman says:

"Speaking again of the situation of investors, we were constantly confronted by this situation. We asked companies: 'Now, why did you continue dividend payments when you knew that dividends were not really earned, taking into the consideration the necessity of maintaining the property and taking care of depreciation?' Those dividends, I might say, in most cases were small and not large. And the answer we almost always received was this: it was necessary to continue dividends in order to maintain the credit of the properties. That means, in other words, the investors looked at the thing in the most superficial way, that so long as the company is paying dividends they are satisfied that it is all right without making any endeavor to find out the real facts and whether or not it is earning the dividends which it is paying. I consider a statement of that sort as a whole a reflection on the intelligence of investors. And I might say also that in the Bay State case we were actually confronted by the claim that depreciation was a newly discovered science, that nobody knew anything about depreciation until a few years ago when that theory was developed, although as a matter of fact, if you will examine the laws of Massachusetts, you will find that the earliest law applying to the capitalization of street railways which was passed away back in 1874 was based directly upon the theory of depreciation. In other words, it was provided that the Commission should not allow increases in stock if it found that the value of the property was impaired. That law was afterwards, I am sorry to say, emasculated. But depreciation is not a new science, but has been recognized for many years, as you know."

Chairman McLeod of the Massachusetts Public Service Commission discussed at considerable length the policies of the Board of Public Trustees operating the Boston Elevated Railway Company with respect to the inclusion of depreciation in the cost of service. After stating that the trustees had spent during the past year about \$2,500,000 more on maintenance than was spent the year before and that in addition they had set aside over \$2,000,000 of depreciation reserves representing an increase of \$1,650,000 over the preceding year, he stated that all these monies were charged to operation. He called attention, at page 1444 of the Proceedings, to the fact that the depreciation fund now being established is not intended to cover depreciation in roadway and track and that renewals of ties, paving and roadways are made a part of the maintenance charge. It was brought out by Chairman Elmquist's questions that the result of the Boston plan will be a substantial rebuilding of the Boston Elevated property out of earnings and the company's failure to provide for depreciation in advance of paying dividends in

past years was not the fault of the public regulatory bodies. The testimony on this point is found at pages 1445 and 1446 of the Proceedings:

"The Chairman: Then in a nutshell the state took over a run-down plant and is going to build it up and make it perfect, turn it back to the corporation and get none of the cost back.

"Mr. McLeod: Of course, a large part of this expenditure represents current maintenance and current depreciation requirements. I might say while this ten-year period is in operation there is a certain amount of depreciation going on during that period in addition to what has occurred in the past, but I have no doubt in my own mind, and I think I am supported in that by investigation made of the matter by our engineering department, that the present maintenance and depreciation expenditures on the Boston Elevated property, while absolutely desirable and proper from the standpoint of putting the property as soon as possible into good physical condition, and a policy which I believe in the long run will be of advantage to the public, does for the immediate present impose upon the public an additional burden owing to the necessity of making up neglected depreciation in the past.

"Commissioner Gadsden: If I understand your general statement it was to the effect that rates in the past have never been sufficient to yield a proper and fair return on the property and set up the proper depreciation and that these properties had been allowed to run down so far as their physical condition was concerned in order to pay the dividends. Now if that is so, is it not entirely proper that when the public takes over the property in the hands of the public trustees the public should pay a fare to put the property in good operating condition, which it has not done in the past? Is there really any injustice in that? Is not the public only now paying what it should have paid all these years?

"Mr. McLeod: I think that is an element that undoubtedly must be recognized in the situation; that is to say, if it can be shown that the properties failed to earn their way in the past, by reason of being prevented from charging a proper fare, and the public has had the benefit of those lower fares, and saved a certain amount of money, that it would otherwise have paid, it might be said that it was only just that the public, who had been the beneficiaries of the old scheme, should pay the cost of making that up, and put on to one generation the burden that ought to have been borne, perhaps, by the former generation.

"At the same time, I believe that that is a problem to be worked out by the companies themselves, under the general economic scheme of regulation and supervision, and when there is a new phase of the problem, by reason of the public stepping in and temporarily taking charge of the properties, all that could reasonably be expected of them would be to turn the properties back in the same condition, and then, at the end of that period, if the companies believe that they can put back the values into the property by charging increased fares, there is no reason why they should not do so.

"Of course, this whole matter is affected by the underlying problem as to how far those past values can be put back into the properties by any system of fares which may be charged.

"The Chairman: Have you not permitted the companies at any time to come before your commission to get adequate revenues?

"Mr. McLeod: That is true, and broadly speaking, no claim can be made, at least I have never heard of any claim at any time from any responsible source up to the present time, that the unfortunate financial condition of the companies in Massachusetts was due to the fact that they asked for an increased fare which was denied; because there was absolutely no justification for any such claim.

"In Massachusetts the rate-making power began only in 1913. The old railroad commission simply had a power to deal with rates upon complaint, and never really took any active part in matters of rates at all; and the most that was done in the whole period of the existence of the old railroad commission was to put in a few little minor rate adjustments at certain points, not, however, based upon any valuation of the company or any determination as to how much money the company was entitled to earn, but upon the basis of making the fares between points A and B consistent with the general fare scheme which the company itself voluntarily had put into effect for its entire system; in other words, merely to correct discriminations.

"The Chairman: Then, in so far as they are charging higher fares now to permit the company to build up its property, it is penalizing the present passengers for the delinquencies of the company in the past?

"Mr. McLeod: I think that is probably true.

"It must be borne in mind that the companies were placed in an exceedingly difficult position because it was absolutely necessary, as it is necessary now, and necessary always, that the company should be kept in good financial credit, because a new inflow of capital is constantly necessary; and in order to get that capital they had to keep on paying dividends, and they had to put a good financial face on their properties. The moment that they would come in to a commission to ask for an increase of rates, they would have to disclose their needs, and the disclosing of the actual condition of the company would undoubtedly have affected their credit."

Surely, there is nothing mysterious about the destruction of the Boston Elevated Railway Company's credit, in the light of testimony like this.

The policy of paying dividends while neglecting current depreciation and maintenance has not been confined to Massachusetts, as will be evidenced by the report and order of the Board of Public Utility Commissioners of New Jersey, dated July 10, 1918,¹ in the matter of the application of the Public Service Railway Company for approval of an increase in rates. In this report the New Jersey commission says:

"The continuous maintenance of safe, adequate and proper service is the paramount duty of a public utility.

"Such continuous service can only be assured by the maintenance of a proper depreciation reserve.

"This fact is recognized in the system of accounts adopted by this Board and by the company in the setting up of a depreciation reserve. This depreciation reserve is built up out of the rates. In the year 1917 the appropriation for depreciation reserve, which should have been credited thereto, was depleted to the extent of over \$500,000 and used to pay dividends.

"To divert to the payment of dividends monies credited to or which should go to the credit of this reserve, and so destroy the assurance of the continuance of safe, adequate and proper service, is wholly unjustified and a violation of the paramount duty of the utility.

"If the earnings of a utility will not admit of the maintenance of a proper depreciation reserve and a fair return upon the property used and useful, the remedy is not to be found in the reduction of the amount carried to or the depletion of the depreciation reserve, but in a prompt application to this Board for relief, before which the inter-related question of the continuous maintenance of safe, adequate and proper service and of just and reasonable rates may be considered, and all parties affected—the utility and the public—heard."

A similar situation was developed in the case of the Scranton Railway Company, where the City of Scranton instituted a proceeding before the Pennsylvania Public Service Commission for the disapproval of the increased fares which the company had put into effect under the Pennsylvania law. The Scranton Railway Company is controlled by the American Railways Company of Philadelphia, a holding company, of which Mr. C. L. S. Tingley, one of the witnesses before the Federal Electric Railways Commission, is Vice-President. It developed in the Scranton Railway fare case that dividends were paid by the company after it had begun to neglect its maintenance. Mr. Tingley's testimony before the Pennsylvania Commission upon this point is illuminating. The extract is found at pages 159 and 160 of the Brief of Complainant filed by the City of Scranton. It appears that Mr. Tingley sought to excuse the action of the Scranton Railway Company in paying dividends to the stockholders, while omitting ordinary maintenance on the ground that the payment of dividends was necessary to maintain the company's credit and enable it to sell its bonds. Upon this point, under cross examination by Mr. R. S. Houck, City Solicitor of Scranton, Mr. Tingley gave the following testimony:

"Q. The dividends of 1917 and 1918 were partially paid out of the surplus of the company, were they not?

"A. Yes, sir.

"Q. Now, according to your testimony, during this same period the maintenance of the road was considerably curtailed and neglected?

"A. Yes, sir.

"Q. Did the necessities of the road require the payment of dividends on stock?

"A. I think so, yes, sir. With a bond issue about to mature and a necessity for selling new securities to replace that issue, there was necessity of maintaining our credit.

"Q. When a road neglects its maintenance does its credit likewise fall?

"A. No, because that is not a matter of financial knowledge, and it can be overcome in a year or so.

"Q. It was the judgment of the management of the road, then, that it was more essential to pay the dividends than it was to repair the road?"

"A. To that extent; yes, sir."

On the same general subject, Mr. Charles A. Fagan, one of the receivers of the Pittsburg Railways Company, gave significant testimony before the Federal Electric Railways Commission, at page 620 of the Proceedings. After describing the circumstances of the receivership he was asked by Chairman Elnquist whether the company had been operating successfully prior to the recent increase in prices. The testimony upon this point is as follows:

"The Chairman: The condition that confronts you is due entirely to the increased cost of labor, supplies and materials, is it not?"

"Mr. Fagan: I would say yes to that question."

"The Chairman: Because up to the rising tide of prices you were operating successfully, were you not?"

"Mr. Fagan: Well, if you mean that from a financial standpoint, by paying the interest on the capital charges, yes. If you mean satisfactorily so far as the service of the system was concerned, I would say no. In other words, I think this system is about at least six years behind in the rehabilitation and upkeep of the physical system."

"The Chairman: How many years ago did this let-down in the maintenance and condition of the property become apparent?"

"Mr. Fagan: About six years ago."

"The Chairman: What was the cause of it six years ago?"

"Mr. Fagan: Well, my opinion is that the company in the beginning or at different times was over-capitalized; that the capital stock was too high; that the bonds were not sold at par; that favorite contractors were given the contracts for the building and rehabilitation of the road, and that all of those things tended to the situation which finally developed."

Dr. Milo R. Maltbie, one of the last witnesses before the Commission, added the weight of his experience and authority to the destructive effect of neglected maintenance upon street railway credit. At page 2092 of the Proceedings, he says:

"It has been the law in many states for years that dividends could not be declared unless earned. Some of the states have recognized in the law depreciation, and other states have not referred to it specifically. Of course, it is a matter of common knowledge that in the past, say 20 years ago, many of the companies paid no attention to depreciation, expecting that the growth of the business and the increases in earnings resulting therefrom would be sufficient to take care of replacements and renewals when it became necessary to make them; and, of course, for a considerable time, their expectations were justified. That is exactly what happened; and they did not find themselves in a critical situation."

"Sooner or later, however, that condition is bound to catch up with a company, and put it in a position like the street railways were in in New York City about ten years ago, when they went through reorganization, in 1907, and the years following, where the lack of provision for depreciation meant that the property had a service value far below the cost of the property and where, when it became necessary to make provision for renewals and replacements, there were not sufficient sums available, and the public authorities would not let them issue securities for the replacement of property. Many companies today are in that situation; not all, but many of them are in the situation where they have not adequate depreciation reserves, and where in order to meet that delinquency it is necessary to resort to other methods which, of course, makes it particularly difficult to secure money from any financial house which has an examination made of the property before approving any considerable amount of securities."

As has been demonstrated under the Chicago settlement ordinances of 1907, rehabilitation is a very costly process. Even where the old capital account is cut to the bone, as seemed to be the case in Chicago, general rehabilitation makes a tremendous call upon the investors. It demands that they shall send a lot of good money after bad. Unless the old investors are squeezed out entirely, rehabilitation almost inevitably leads to overcapitalization, strained credit and costly financial arrangements. Alas the day that gave birth to the fatal thought that credit can be kept alive by dividends made possible through neglect of maintenance.

CHAPTER XIII.

OVERBUILDING

During the period when horses and mules were the motive power in street railway operation, short lines and many of them were the rule. Many separate companies, partially competitive, sprang up in all the principal urban centers. Access to the traffic center was generally indispensable to each separate line. The result was that in many cities tracks were constructed in the downtown districts far beyond what would have been required under unified operation. Later on, after the period of electrification and consolidation set in, many of the cities still clung to the fetish of competition and gave franchises for circuitous and partially paralleling routes to new companies. The new lines, after their construction, were almost everywhere swallowed up in the general consolidations forced by the monopolistic character of the street railway business. A few of the competing lines still survive under diverse ownership and management. For example, Dayton, Ohio, still boasts of four street railway companies, and even the District of Columbia has two. In Detroit the 3-cent lines, built under a competing franchise granted as a part of the late Mayor Pingree's campaign to bring the old traction company to its knees and secure a reduction in street railway fares, were soon swallowed up in the Detroit United Railway, but until very recently these lines were operated as a separate system with different rates of fare and transfer regulations. The City of Richmond, Virginia, furnishes another illustration of the effects of competitive street railway building. During recent years it has been one of the great problems of the Virginia Railway and Power Company to secure from the city authorities of Richmond the right to abandon lines that, in its opinion, have proven unnecessary and ought never to have been built. For years the Attorney General of the State of New York, at the instance of the Public Service Commission for the First District, was engaged in litigation to enforce the legal abandonment of street railway mileage in downtown New York which had originally been constructed under perpetual franchises by separate and competing companies, and which was being held in nominal use by the operation of a "franchise-carrying" car with an irregular 24-hour schedule.

No evidence was presented to the Commission to indicate the precise extent to which the overbuilding of street railway lines in the days when competition was recognized as a desideratum of public policy still survives to plague the industry, but it cannot be doubted that if the problem of laying out transportation lines could be tackled anew, without any embarrassment from the existence of the present structures, great economies could be effected and great improvements in service made by the adoption of lay-outs better adapted to the requirements of electric railway traction of the present day. When Secretary Baker was on the

stand, he was asked by Chairman Elmquist what there is about the Cleveland situation that permits the company to operate at a 5-cent schedule today and meet all of its fixed charges and operating costs.¹ In reply he cited "a sound capitalization," representing approximately the physical valuation of the property, as the first reason for the fortunate condition in which the Cleveland Railway Company finds itself. His second reason was the absence of overbuilding. Upon this point, at page 1008 of the Proceedings, he says:

"Another thing, of course, is the fact that Cleveland has been a very rapidly growing city, and its lines of street railroad have been extended to meet that growth solely in the interest of service.

"What I mean by that is this: There has been no competition between competing lines, and there has been no building for speculative purposes. When you have a privately owned street railroad, it sometimes happens—I do not mean that this is the usual thing, but it sometimes happens—that the persons who manage the railroad go out and buy large farms in the suburbs, and then they extend their railroad out to their farms and sell the farms cut up into building lots, and they operate the street railroad as a feeder to a real estate venture. That has not happened in Cleveland, because the street railroad is operated in the interest of the people, and it has had no heavy losses in long hauls to sparsely settled communities, for the purpose of aiding real estate speculation. That is a thing which has happened in a great many street railroad enterprises, and it has not happened in Cleveland in a great many years, because this settlement has been going on for a long time."

What Secretary Baker says is undoubtedly true of the development of the Cleveland Railway system under the Tayler franchise, but there is little doubt that in the early years, before the original competing lines were consolidated, there was excess trackage in Cleveland, as in other cities. What happened in Milwaukee is shown by Mr. Mortimer at pages 785 and 786 of the Proceedings, where the following testimony is found:

"Mr. Warren: Was there any substantial increase of line going back to the electrification of this system, in mileage?

"Mr. Mortimer: No; in this system, there has been no substantial increase in mileage within the city limits, because the company was built up of seven separate systems, many of which closely paralleled one another, and in a process of gradual rehabilitation, the lines that have been too close together have been removed; so that while, say, at the end of the year 1910, there was less actual track mileage in the city of Milwaukee than there was in 1896, it reached farther out into the residential and manufacturing districts and was much better distributed to serve the population.

"Mr. Warren: So that there were extensions?

"Mr. Mortimer: Oh, there were extensions.

"Mr. Warren: But you have eliminated some unnecessary mileage.

"Mr. Mortimer: Yes; we have eliminated some unnecessary mileage.

"Mr. Warren: Were those different lines merged into one company, or were they all in one company before that?

"Mr. Mortimer: The Milwaukee Electric Railway & Light Company is a reorganization of the Milwaukee Street Railway Company, and all lines were merged in the Milwaukee Street Railway Company.

"Mr. Warren: Aiter or before electrification?

"Mr. Mortimer: The process extended over a period of about three years, electrification and merger simultaneously."

It will be seen from the above that, according to Mr. Mortimer, the excess mileage resulting from horse car competition has been gradually eliminated in Milwaukee and a more scientific and economical system of lines evolved during the period of electric traction. Undoubtedly the cost of lines abandoned in this way generally figures in the capital account of an electric railway company where such abandonment has occurred, and goes to swell its claim on account of superseded property in the determination of fair present value for rate purposes. It

is thus a source of overcapitalization which, in turn, has a weakening effect on street railway credit.

One of the unfortunate incidents in the early history of street railway development was the use of different gauges in the construction of competing lines. In the process of consolidation, where lines having different gauges were brought together, it was necessary either to spend large sums of money for a change of gauge on one set of lines, or to continue the physical operation of the two sets of lines separately. The Public Service Railway Company of New Jersey, for example, carries in its capital account items of expense aggregating about \$4,000,000 charged to "rehabilitation," which it appears from testimony recently offered by the company in the railway fare case were incurred in changing gauges to permit unified operation in the northern part of the state. It is noteworthy, moreover, that this company still has the broad gauge in its southern division in and about Camden, although all of its lines in northern New Jersey are of standard gauge. For many years, unnecessary trackage and uneconomical operation were maintained in the City of Norfolk, Virginia, by the Virginia Railway and Power Company, by reason of the existence of two gauges on different parts of its system. The lines of the Los Angeles Railway, which supply most of the local service in the City of Los Angeles, are of narrow gauge, while the Pacific Electric lines, spreading out from Los Angeles as a center, are of standard gauge, with the result that on routes where both local and interurban cars are operated it has been necessary to encumber the streets with three rails instead of two. No doubt there are many other illustrations not brought out in the evidence before the Commission where competitive building in the early days of street railroading and the use of different gauges have resulted in excessive charges to capital account originally, and in further excessive charges for rehabilitation and change of gauge following consolidation; or else in continued wastefulness in operating methods.

Not only did the electric railway inherit a large amount of overbuilding from the horse car days of competition and diverse gauges, and not only did additional overbuilding result after the introduction of electricity as a motive power from the continued effort of the municipalities to preserve the imagined benefits of competition, but the electric railway may be charged with overconstruction on other accounts. The introduction of electricity gave rise to a period of high hopes and intense speculation. Promoters of transit schemes thrived, and when they were not engaged in the pastime of overcapitalization in connection with the consolidation of competing properties, they branched out into the highways and byways and procured the extension of electric railway facilities into the suburban and rural districts where nothing but the over-sanguine expectations of a "green" art gave promise of financial success. Witnesses for the American Electric Railway Association laid great emphasis in their testimony before the Commission upon the statistics of abandonment as indicative of the poor financial condition of the electric railway industry at the present time and of the danger that the industry may collapse entirely, and an essential public service disappear. The abandonments effected and proposed on the Bay State lines of Massachusetts have been called prominently to the attention of the Commission, and have fre-

quently been referred to in the propaganda carried on by the electric railways during the past two years throughout the United States. Mr. James W. Welsh, statistician for the Association, presented a list of certain electric railways, as of June 7, 1919, showing sixty-two companies with 5,912 miles of single track in the hands of receivers; sixty-one companies with 791 miles of single track dismantled and junked, and thirty-eight companies with 257 miles of single track abandoned, making a total of 6,960 miles of track, or about 16 per cent of the total track mileage of the electric railways in the United States. The statistics of dismantlement and abandonment start with the year 1915. They include 30.4 miles of track abandoned by the Bay State Street Railway Company. There is little or nothing in the evidence presented to the Commission to show that the abandonment of lines, as far as it has gone up to the present time, is anything other than a tardy but necessary recognition of the financial mistakes made in the early days of street railway development. It would appear from the testimony that the abandonment of 30 miles of Bay State track is an extremely modest beginning in the direction dictated by sound financial policy. From the point of view of the electric railway industry it is only the fact that lines once built create a species of vested rights in real estate values and social conveniences dependent upon the existence of transportation facilities that makes questionable a policy of wholesale abandonment of unprofitable lines.

Mr. R. S. Bauer, of Lynn, described what he learned when, as President of the Lynn Board of Trade as far back as 1908, he took up the study of the development of the Bay State system. He gave this significant testimony at pages 1622 and 1623 of the Proceedings:

"I found further that the ground hogs in the different communities, the land speculators, had brought certain influences to bear on the local governments which compelled the street railways to build extensions into property for the sake of adding rental and sale values to pasture land, and the politicians in charge of the localities in those times brought sufficient influence to bear on the railroads to compel them to build that kind of extensions, which were never profit producing lines.

"So when the unit system was eventually formed, it took in all of these miles of non-productive track, together with, of course, a certain number of miles of very productive track.

"The Pay State system has around one thousand miles of trackage. Out of that thousand miles there are about 320 miles that were built purely for speculative or competitive purposes, that have never been profit producing from the time they were first laid. They would not be profit producing today at any rate of fare that the people would pay to ride on the trolleys."

In the "Statement" of Chairman McLeod for the Massachusetts Public Service Commission² before the Street Railway Investigation Commission of the Massachusetts legislature, November 28, 1917, the history of electric railway development in Massachusetts is set forth at some length. At pages 3 to 5 of this document we find the following:

"Mr. Warren has told you that Massachusetts 'has more street railway mileage in proportion to its population and to its area than any other state in the Union,' and he is substantially correct. * * * The fact is important and significant. You have been told that people then believed that electric railways were a bonanza, or, as Mr. Sullivan puts it, 'that you could carry people any distance, anywhere, any time, for a nickel.' But this is only partially true. Beginning in 1893, the Board of Railroad Commissioners, under the able leadership of John E. Sanford, time and again warned investors against this belief and demonstrated its fallacy in great detail. * * *

"The fact is that Massachusetts was beset, in the nineties and even later, by a throng of promoters who laid out lines anywhere and everywhere, bid against each other, and in their eagerness for locations accepted franchise grants subject to burdensome restrictions. The subsequent disregard of these grants, which the local authorities supposed were binding

contracts, has, as you know, been a fruitful source of public irritation. In a number of cases they have been carried to the courts. You may wonder why this craze for building should have fastened upon a state where the law permitted no bonus stock and where no promoters' profits were directly recognized. Such profits were, of course, in some way secured. The fact seems to be, as nearly as we can determine it, that the promoters awarded to themselves the contracts for construction, that the Board of Railroad Commissioners, until 1902, had no power to prescribe standards of construction; that it was dependent in the supervision of security issues, until 1902, upon experts paid by the companies themselves; and that there has never been any regulation of the creation of floating indebtedness. The result was that many of the roads were poorly and cheaply built, and it is a fair deduction that costs were at times less than the estimates upon which security issues were based, and that the promoters added the difference to their profit and further enriched themselves, in some cases, through the medium of floating debt.

"An even worse result was that this thirst for construction profits led to the building of many badly-located roads, with no reasonable financial excuse for existence. * * * The building of these ill-advised, poorly-designed and cheaply-constructed roads has been an important factor in producing the situation which you are now considering."

In his testimony before the Commission, at pages 1435 and 1436 of the Proceedings, Mr. McLeod emphasized the effects of overbuilding upon the present condition of the companies. His testimony is:

"In Massachusetts the financial stability of the street railway industry has been impaired by overproduction. Massachusetts has more street railway mileage in proportion to its population and area than any other state in the Union, and this mileage is not only large in amount, but in many cases badly located. This condition is the result of the era of speculation in street railway building which set in with the advent of electrification. Competitive lines were built where there were traffic possibilities for a single line only, and the lines were extended anywhere and everywhere into the sparsely settled rural districts where there was no reasonable financial excuse for building at all. It might have been better in the long run if this boom period had been allowed to run its natural course, if unnecessary lines had then been abandoned and if a number of small companies which had sprung up during this period of mushroom growth had reorganized by scaling down their securities to correspond with the traffic possibilities of the territories they served. Instead, these speculative companies were saved from prospective bankruptcy or the scrap heap by the policy of consolidation, under which they were taken over, with all their questionable debts and obligations, on a share-for-share basis by the more prosperous urban companies. From this union of prosperous and potentially bankrupt companies there emerged a number of street railway systems with just sufficient vitality to keep their heads above water during fair weather, but incapable of meeting the stress of hard times and war conditions."

Mr. Richard T. Higgins, Chairman of the Public Utilities Commission of Connecticut, indicates by his testimony that overbuilding was not unknown in that state. At page 1108 of the Proceedings, he says:

"During the era of street railway development many lines were extended into rural sections. These sections developed because of the extensions and became dependent upon the trolley for transportation, but the volume of traffic now received on many of these lines is not sufficient to pay operating expenses."

Again, at page 1111, he says that "in the pioneer days of street railway operation, when the street railway business was more or less profitable and the nickel was worth a good deal more than it is today, the spirit of greed or avarice, high financing, possibly of extension of unprofitable lines, crept into many companies."

Thus far I have discussed overbuilding in the form of unnecessary trackage constructed originally as a result of competition or as the result of the pressure of real estate interests or as a result of optimistic promotion. Attention should further be called to the overbuilding that has progressively characterized the development of the electric railway right down to the war period. I refer to the tendency almost everywhere manifested during the fifteen or twenty years preceding the invention of the one-man safety car to install heavier and heavier track

construction and heavier and heavier equipment in connection with the replacement and extension of street railway property. A large amount of the additional capital that has gone into the electric railway business during its period of phenomenal expansion has been required by this increase in the size and weight of cars and the weight of rail, and by the larger power plants required on account of the heavier equipment. While the testimony before the Commission is incomplete on this point, it is noteworthy that the Committee on One-Man Car Operation of the American Electric Railway Transportation and Traffic Association, in its report, presented at the Atlantic City convention in October, 1919,³ called attention to the fact that two large street railway systems reported their purpose to reduce the weight of rail to the extent of 20 per cent to 30 per cent if safety cars become the standard type of equipment in the future. The safety car itself, weighing less than half as much as the average double-truck modern car in use on city systems, and only a fraction as much as the big interurban cars, represents a much smaller investment per passenger seat than is represented by the old type of cars. While there is still considerable mystery and doubt about the revolution in street railway equipment and operation predicted by Henry Ford, it is significant, nevertheless, in connection with this matter of overbuilding, that Mr. Ford's engineer, in an interview recently published, is reported to have said that with the new type of cars a 40-pound rail would be ample in place of the 91-pound rail now used by the Detroit United Railway.⁴ No doubt the municipalities have been in part responsible for the introduction of extremely heavy types of rail in many places. Upon the assumption that heavy, grooved rails were essential for the protection of the pavement and the preservation of a smooth street surface, this type has been required by franchise, contract or by ordinance in a great many cities.

It seems clear that overbuilding in its various forms has been one of the most important factors in swelling the capitalization and the construction accounts of the electric railways. Its effect upon credit could not have been otherwise than adverse and cumulative, particularly when the idea dawned upon the horizon of the street railway investor that many street railway lines and an enormous amount of street railway equipment were becoming obsolete as a result of automobile competition and a sharp reversal of the tendency of development in the street railway art.

CHAPTER XIV

HOLDING COMPANIES AND BANKER CONTROL

It has been said that the electric railway companies of Massachusetts have always been nearly free of initial overcapitalization, and the conservative figures of capital stock and bonds outstanding per mile of track seem to bear out this statement. Those who wish to gloss over the evil effects of overcapitalization on credit and to treat it as a "dead issue" at the present time point to Massachusetts for their proof. We have seen that there was some "water" in street railway capital even in Massachusetts, that the roads were recklessly overbuilt and that they grossly neglected to provide for depreciation. But the evidence goes farther and shows that the holding company nuisance developed in Massachusetts as a means of evading state regulation and creating overcapitalization in the street railway industry in spite of laws and commissions. There are those who would excuse the optimism of early promoters and speculators on the theory that ordinary good business judgment was used in the development of the electric railway industry and that the men who built and managed the roads twenty or twenty-five years ago did not foresee and could not have foreseen the disappointments that were in store for the industry even before the Great War brought on the present crisis. This view is clearly controverted, at least so far as Massachusetts is concerned, by the annual reports of the Massachusetts Board of Railroad Commissioners, extracts from which appear as an appendix in the documentary "Statement" filed by the Massachusetts Public Service Commission with the special legislative investigating committee of 1917. For instance, the Twenty-Fourth Annual Report of the Railroad Commission, for the year 1893, right in the heyday of electrification, contains the following statement at pages 105 and 106:

"There is an active 'boom' in electric railway building and speculation now in progress. It is stimulated by the apparent cheapness of electricity as compared with horse power, by the expectation of large profits, and in some cases probably by the hope of successful deals in the securities of the company. Little attention is paid to the fact that the plants and equipments of the companies using electric power are new, that their cost is charged to construction and not to expense, and that the point has not yet been reached where extensive repairs and renewals are required. When this point has been reached, and the cost of repairs and renewals is charged to the current expense of operation, the margin of apparent profit which is now shown by some of the companies will probably be materially reduced.

"The horse railway has been usually a local enterprise, built by home capital, and controlled by residents of the city or town in which it was located, whose interests were identified with those of the community which the railway served. It is notorious that to a large and increasing extent our street railways are passing into the control of syndicates and traction companies, so called, organized in other states whose easy-going laws allow to corporations there formed a license which is forbidden in this State. The stock of the railway company is bought up, in some cases at prices much beyond its market or intrinsic value, is conveyed to the syndicate or traction company, or to trustees for its benefit, and the purchasing syndicate or trust, as it is said, thereupon proceeds to make, without regard to the amount of cash paid in or paid out, largely watered and inflated paper issues of its own stock and securities, upon which the public using the railway is expected somehow to pay a return. Such speculative

deals and stock operations are against public policy if not against public morality, and tend to the introduction of a system and method of financial and business management which in the end must prove pernicious to the interests of the public."

Again, in the report for 1894, the Railroad Commissioners discussed the financial prospects of electric traction as compared with horse railway operation, and, after pointing out that the cost of renewals and replacements was not yet being felt, reached the following conclusion at pages 109 and 110 of the report:

"We must conclude, then, taking everything into the account, that there has been thus far no demonstration of the superior net earning capacity of the electric as compared with the horse system, but rather the reverse. It is not, however, intended to raise the inference that the electric system is, or is likely to prove, under conservative and proper management, a serious financial failure. The conditions attending its further and fuller development will probably be found to differ in no essential respect from those attaching to the old horse railway system, or to the steam railroad system. A well located and well managed electric railway, it may be fairly said, stands a similar chance of financial success with a well located and well managed railroad or horse railway. Upon the present showing and outlook, it certainly stands no better chance. If badly located or badly managed, there clearly has not been manifested as yet any miraculous power in its peculiar system of locomotion to save it from the familiar fate of the railroad or horse railway when struggling under the same difficulties.

"It can and should be said, however, without hesitation or qualification, that the electric system has not shown or indicated any such margin of profit as to justify the expectation of more than moderate and ordinary returns on money legitimately invested in it. The idea, which seems to have obtained some currency, that the electric railway system is a bonanza of rare and inexhaustible wealth, is clearly a delusion, and has doubtless proved to some a snare. The absolute cost and expensiveness of the system, under the most conservative, able and honest management, are sufficient to task its earning capacity to the full limit. There is no margin for fictitious or inflated capitalization. It presents no safe or inviting field for speculative enterprise or manipulation, unless it be to the unscrupulous operators of an inside ring who are willing to practice on the credulity of a misinformed public. Wherever there is reason to believe that water has been, or is about to be, injected into the stock or bonds of an electric railway company, the only safe course is to let its securities severely alone.

"Instead of inflating the liabilities and straining the earnings and surplus for the division of ostensible profits, the manifestly safe and imperative policy for the electric companies—and that without special regard to the present unusual stringency of the times—is to keep the capitalization and charges upon income within the narrowest practicable limits, and to set apart year by year some substantial portion of the earnings as a fund for future contingencies, and for the increasing burdens of expense which are sure to come and whose weight is now only partially felt or known."

The extent to which Massachusetts street railways are now controlled by holding companies, and the way in which these companies have brought about overcapitalization outside of the law is shown by the following extract taken from pages 6 and 7 of the Massachusetts Commission's "Statement" of November 28, 1917:

"To facilitate the process of consolidation, and for other reasons, stock control of many of the companies was acquired by holding companies, organized without express statutory authority in the form of voluntary associations or express trusts. Last year, excluding the Boston Elevated, out of a total \$52,424,100 common stock of all operating companies, stock amounting to \$39,476,886, or 75 per cent, was in the hands of these voluntary associations. As our Supreme Court has said, 'they are not corporations, although they are organized with a view to exercise many of the privileges of corporations without assuming their statutory liabilities.' Their securities have been issued entirely without public regulation. As a rule, they have both common and preferred shares. The common shares are practically all 'water' and the inflation in some cases extends to the preferred issues. By this means large profits were in some cases reaped by the organizing syndicates. Not a few investors have purchased shares of these holding companies in the belief that they were buying the securities of Massachusetts public service corporations issued under public supervision. Many more have been misled by the word 'preferred,' failing to realize that the *preferred* shares of these associations were no better than and frequently not so good as the *common* shares of the underlying street railway companies. The effort to maintain dividend payments upon these inflated se-

curities has at times proved injurious to the underlying properties. The failure of these associations to satisfy expectations, and the consequent disillusionment of investors, has impaired street railway credit generally. You will find that many of the investors who have appeared before you are holders of these 'watered' shares."

These facts were further emphasized by Chairman McLeod and Interstate Commerce Commissioner Eastman in their testimony before the Commission. At page 1447 of the Proceedings, Mr. McLeod says:

"A great part of the street railway management of the state, and a large number of the companies in the state, very much more than the majority, outside of the Boston Elevated Company, is represented by holding company control; and the securities underlying the street railway company are taken over by the holding company, either as a single asset or in conjunction with the assets of other companies; and the holding company floats a set of new quasi-securities of its own and markets those; and of course those are handled through the investment bankers in the same way as ordinary industrial issues.

"The Chairman: So that the investment bankers were putting out a security, then, without examining the physical condition of the property?"

"Mr. McLeod: I do not know to what extent they examined it; but an examination ought to have disclosed, if it were an intelligent examination, the fact that the property during this entire period was not on a self-supporting basis."

Mr. Eastman's prepared testimony on this subject is found at page 2058 of the Proceedings, where, in enumerating the causes for the bad present condition of the Massachusetts street railways, he says:

"In the third place a factor of weakness, I think, was the control of the companies in many instances by holding companies organized in the form of voluntary associations, or to use a more technical term, express trusts. Although the stock and bonds of the street railway companies themselves were issued under public supervision, these voluntary associations which corralled all their stock were subject to no regulation whatever and issued shares upon an inflated basis, and that had the result of accentuating the desire to draw every possible drop of income out of the underlying companies that could be secured in order to support earnings upon the inflated shares of these voluntary associations."

Later on, Chairman Elmquist brought Mr. Eastman back to the subject of holding companies, and the latter reiterated and amplified his previous statement. This additional testimony appears at page 2075 of the Proceedings:

"The Chairman: You were discussing the holding companies and mentioned that as one of the weaknesses of the Massachusetts system. To what extent is a holding company a weakness in the system of operation?"

"Commissioner Eastman: Well, I think it is a weakness in this way, where the securities of the holding company are issued on an inflated basis as they were in Massachusetts, that two things result:

"In the first place, there is a tendency to draw from the underlying companies every possible cent which you can in order to make a showing on these inflated securities; and outside of that, there was in Massachusetts a very deep seated tendency to mislead investors. For instance, I have known of investors who bought preferred shares of the Massachusetts Electric Companies, which was the holding company, which controlled the Bay State, and they were under the impression that they were buying preferred stock of the street railway company, whereas the preferred shares of that holding company were no better than the common stock in the underlying company. Now, when they are disillusioned by their experience, that all tends to injure the credit of street railway companies."

The extent to which holding companies have come into control of public utilities throughout the United States is shown by a note that appears in printed "Memoranda and Data Submitted to the Officials of the Treasury Department and referred to in the correspondence between the President and the Secretary of the Treasury, January 8, 1918," prepared by the special committee of three representing the joint electric, street railway and gas interests of the country,¹ which states:

"Approximately 75% of the public utilities of the country are owned in whole or in part by so-called holding companies which are responsible for financing the operating companies.

This financing is done through the securities of the parent company, which securities are supported by the securities of the various operating companies. This gives a strength to the securities of the parent company which a single localized operating company could not present. If it were not for the supporting strength of these parent companies many of the individual operating companies would have gone under before January 1, 1918. It is essential that any arrangement for assisting the general public utility financing should be broad enough to include within its provisions these parent companies. If the Government financial aid is extended through the parent companies wherever possible, the process will be very much simplified and the demands upon the guaranty fund on the part of the Government reduced to a relatively nominal amount."

Mr. Richard Schaddelee, a manager of several street railways in the Middle West, who testified before the Commission on behalf of the Electric Railway Association, expresses the opinion that the holding companies have been instrumental in postponing the bankruptcy of some of the operating companies. At page 871 of the Proceedings, he says:

"Another reason a good many street railway companies are not yet in bankruptcy is due to the fact that there are some strong holding companies standing back of them and they are putting the credit behind those companies, that is, they are holding a lot of them up, and if they were standing on their feet there would be a whole lot more bankrupts than there are now. That is another thing you have to consider."

The evidence submitted to the Commission on the theoretical functions and practical workings of holding companies in the country as a whole was much more meagre than the evidence with respect to their activities in Massachusetts. Mr. Marion M. Jackson, representing Mayor James L. Key, of Atlanta, placed upon the record considerable testimony on the ramifications of holding company control, particularly in the South and West, and the matter of concentrated financial control was referred to by Mr. W. Jett Lauck in his Brief for the Amalgamated Association of Street and Electric Railway Employees. Also, Mr. James L. Quackenbush, general counsel for the Interborough Rapid Transit Company of New York, described from his point of view the relation of the Interborough-Metropolitan Company and its successor, the Interborough Consolidated Corporation, to the Rapid Transit lines and the surface lines of New York. Mr. Morris L. Cooke, former Director of Public Works of the City of Philadelphia, organizer of the two national conferences on public utilities that were held in Philadelphia during the Blankenburg administration, and acting director of the Utilities Bureau, referred in his testimony to his pamphlet "Snapping Cords"² published in 1915, in which he commented upon "the changing attitude of American cities toward the utility problem." At pages 5 and 6 of this pamphlet, a copy of which he filed with his testimony, at page 1690 of the Proceedings, Mr. Cooke has this to say about the methods by which public service corporations have been overcapitalized and about the banker's role in the financial drama:

"We should understand the way in which the so-called 'water' has been introduced into the securities of these companies.

"At the beginning of the process stands a banker who, having purchased all or practically all of the stock of a locally owned property, proceeds to introduce better methods of management and to improve and extend the equipment, accepting for the money advanced for such purposes whatever security the company is able to issue.

"As soon as the earnings of the company reflect these improved conditions, or results are sufficiently assured to warrant an adequate engineering report, a plan of reorganization is devised.

"A company is formed to take over one or more smaller companies. This company usually authorizes enough bonds to provide for the refunding of all the mortgage indebtedness of the companies consolidated and to pay back to the banker the money expended by

him in the purchase of the stock of these companies and also the improvements made and sometimes a cash profit besides, but this is not usual. Very often they do not get back all of the money put out. But you will recognize when they do get back all of the money put out, the stock of the company becomes theirs for services without any actual cost.

"Preferred and common stock are issued in amounts according to the particular plan. The preferred stock is generally sold as soon as the earnings make this possible for cash, which is either profit or to a considerable extent profit and the common stock representing the control of the company and its prospects has a material immediate value on account of this. Very often, a considerable part of the preferred has to be used for greasing the wheels. Up to this point, with slight variations, the process is as old as the modern corporation."

Mr. Cooke then describes the holding company as the banker's next device and shows the part it has played in overcapitalization. At pages 6 and 7 of his pamphlet, Mr. Cooke says:

"It is the next step—the formation of the holding company—which has caused so much criticism. As a device for the injection of water the efficiency of the holding company compares with the high finance which preceded it as a high pressure fire main does to a garden hose. Thus, a banker having the stock of several companies, the aggregate of which produces a considerable sum in dividends, forms what is known as a holding company and he turns the stock which he holds into this company for what is known as collateral trust bonds, and preferred and common stock. He sells the bonds, thereby getting cash for his stock which he turned into the company, without losing control of the individual company. There are a number of instances where several small holding companies have been turned into one large holding company. The end is not yet.

"The only serious defence I have ever heard made of this method of financing is based upon a belief in the *absolutism of private property*, for certain it is that the capitalization of a company under this method of financing has no relation whatever to values.

"Of the \$8,000,000,000 or more of capital, employed in electric, gas, street and interurban railway companies, nearly five and a half billion dollars are controlled by holding companies and their subsidiary companies. Holding companies control 76 per cent. of the two billion dollars of capital invested in electric light and power companies; two-thirds of the one and one-third billion dollars in artificial gas companies, and two-thirds of the five billion dollars of capital in street and interurban railway companies."

The early syndicates and private banking houses were undoubtedly responsible for the inflation of securities and the frauds perpetrated on the investing public. How these matters worked in the early days of electricity is vividly described by Mr. Lauck at pages 17 and 18 of his brief, where he says:

"Adventuring in the financial exploitation of street railways on a large scale dates from the early eighties, and more particularly from the beginnings of cable-line construction and electrification of horse car lines, and extended over a period of more than a quarter of a century. During the eighties and nineties few, if any, restrictions through state or municipal laws and regulations were thrown around operations of this character, the 'game' was new, opportunities were innumerable, and the practice was almost universal. Every city had its traction speculators, the public was uninformed or indifferent, and, therefore, gullible, and enormous fortunes were made in a few months or a few years of frenzied financiering. Shrewd men were quick to see the possibilities in this field, and, as might have been expected, a few of the more shrewd and more energetic speedily associated themselves in groups or syndicates to conduct their operations on a large scale and to monopolize the opportunities. One such group in its personnel, its methods, and its performances is typical of all, and for the purposes of illustration we may cite what was popularly known as the Widener-Elkins-Dolan-Whitney-Ryan syndicate. This group of capitalists and political manipulators was not a compact corporation, it had no legal existence, and did not always act as a unit, and has been described as 'rather a federation of capital than a well-defined union.'

"In the course of twenty to twenty-five years these men, working separately or together, entered city after city and State after State until they controlled or dominated the street railway systems in New York, Chicago, Philadelphia and Pittsburgh, and in at least one hundred smaller cities and towns in seventeen states. The total capitalization of the street railways they thus controlled in 1907 exceeded one billion of dollars, which was considerably more than one-fourth of the capitalization of all the street railways in the United States at that time. Their power in politics was as potent as their exercise of it was pernicious. Their profits in the aggregate are not ascertainable from authentic records, but may be estimated at hundreds of millions, for these profits represented not merely the water which they in-

jected into the securities of the companies they controlled, but the market price—often two or three times the par value—at which they were able to unload these watered securities on the investing public.”

Things quieted down somewhat after state regulation became general, but the early syndicates were succeeded by the modern holding companies, engineering and management corporations, and investment banking houses, all of which were free from publicity of accounting and regulation by the state public utility commissions. The control and financing of street railway companies became more centralized than ever. The advantages of local ownership were lost, and the appeal was made from the local investors, who might know what was going on, to the great investing public of the nation as a whole, who probably would be “innocent” of such knowledge.

Mr. Francis H. Sisson, of the Guaranty Trust Company, in discussing the issuance of bonds in street railway financing transactions, at page 345 of the Proceedings, says:

“Might I add that I think one of the fallacies of our public utility financing, which has been particularly true of the railroads and in a measure true of street railway lines, has been the building up of this burden of debt (bonds) all the time, instead of making the stock attractive so people will buy it. We have been piling up fixed charges instead of giving these roads a credit based upon earnings which would permit a sale of stock to the public at a fair price. The railroad burden of debt has been increasing reliably year after year, because you cannot sell railroad stock, the public will not buy it, because it is not assured of a fixed return.

“Mr. Warren: We have a law in Massachusetts designed to provide for that, by which funded debt can be issued only to the par value of the stock, and as the stock can only be issued at par, the result has been the piling up of a floating debt which is far more inimical, because it invites a receivership over night.

“Mr. Sisson: A proper financial construction ought to provide for a bonded obligation of not more than 60 per cent of the real value and the balance in stock.”

Strange as it may seem, these unsound policies are probably due in large measure to the fact that the electric railways have come to be, to a great extent, a banker-controlled industry. Those who have the ultimate say in matters of street railway policy from the point of view of the investors have been dependent for their profits and their power upon the volume of securities outstanding and the frequency with which these securities were exchanged or refunded. The big margins are made on the bankrupt or semi-bankrupt concerns. But in the case of the electric railways the controlling financial interests that profited by keeping them in a speculative and precarious condition carried their policy too far, even from their own point of view. The war came on and the enfeebled sick man suddenly had fainting spells, so that the doctors who had been keeping him in condition to require their services found themselves in serious danger of losing a lucrative patient and in danger even of being called upon to contribute to the expenses of his obsequies. Under these circumstances, the problem of rehabilitating street railway credit generally comes pretty nearly to being a problem of restoring the dead.

The facts of street railway history substantially bear out the testimony of Ex-Governor Eugene N. Foss, of Massachusetts, who at page 792 of the Proceedings referred to the evils of banker control, having in mind particularly the steam railroads. He said:

“Banker management has got to cease from all of these railroads and public service corporations. It is a failure. Why? Because the temptation to wreck these roads and re-

organize them is too great. They do it every ten years or thereabouts, and that is what happens. Do these railroad presidents and these railroad managers who own very little of the stock of the companies, you will find—do they ever consult their directors or stockholders in reference to any measures? No, they go right down to Wall Street and talk with the banker who is running the proposition. That is the man who appointed them, the banker, not the directors."

Another Massachusetts witness, Mr. Ralph S. Bauer, of Lynn, described his study of the development of the Bay State lines, and paid his respects to banker management in no uncertain terms. At page 1622 of the Proceedings, he said:

"In the early days of the street car service there were four competing companies in Lynn, each one of them to a very large extent paralleling or feeding into the other's territory, a waste of investment, a waste of service, a condition that really forbade, if extended to any great extent, a return on the capital invested.

"Then I found that a little later on in the nineties, banking interests in New England became interested in the street railway problem, and believed that by consolidating these competing companies there could be evolved from such consolidation a unit system which would pay tremendous profits. Securities were advertised and sold with that statement connected with them, through the most responsible banking houses in New England.

"It created a state of mind in everyone that the street railway service was a tremendous profit-producing arrangement, and that all anyone had to do was to invest in securities and in a year or two lie back and reap the reward."

Further on, at page 1625 of the Proceedings, Mr. Bauer adds:

"The banker control of our street railways has been the real reason of their existing during all these years without anyone finding what the real question was, without anyone understanding the philosophy relating to the community on the one side, the car riders on the other and the street railway system as a factor in both. They have regarded it purely as a speculative dollar-producing arrangement, nothing else. Their whole drive has been along that line. And the time has come now that any rate of fare which will pay a return on the capital invested is a larger rate than that at which the people will ride. Therefore, the thing that presents itself to you men as I see it is to recommend some readjustment of the railway service that will restore to the communities the service-producing possibilities that the communities are entitled to have from that factor."

Mr. John J. Stanley, president of the Cleveland Railway Company, in his testimony before the Commission, rather naively gave support to this idea that the investment bankers are primarily interested in concerns whose credit is poor rather than in those whose credit is good. Chairman Elmquist was questioning him about the benefits of the Cleveland service-at-cost plan. At page 598 of the Proceedings the following questions and answers appear:

"The Chairman: Do you think this is as good a plan as can be devised to take care of the companies, as well as the public, during good as well as during bad times?"

"Mr. Stanley: Yes.

"The Chairman: Do you feel that this plan establishes a good credit for the company?"

"Mr. Stanley: Without a doubt. I do not know what a banker is in my business.

"The Chairman: And creates an absolutely safe return for capital?"

"Mr. Stanley: Yes."

There can be no doubt that the exceptionally good credit of the Cleveland Railway Company during these troubled times has been due in large part to its simple corporate organization and its direct relation to the local investing public. The Cleveland Railway has been operated as a public utility, not as a stock-jobbing enterprise. That holding companies and banker control have "made a mess of it" in trying to finance the electric railway industry is reasonably clear. The record does not show the extent to which the holding companies outside of Massachusetts have been overcapitalized, but there is reason to believe that they have taken advantage of their freedom from publicity of accounts and from regu-

lation by public service commissions to pursue the same policies which the electric railways themselves pursued until they were stopped by law.

The first fundamental cause of the electric railways' loss of credit is undoubtedly their false basis of capitalization and the improper use made by themselves or on their behalf of the credit which they had. Ever since the introduction of electric traction, if not before that time, they have been "riding for a fall."

Overcapitalization served two purposes: it was a means by which promoters and speculators in the early days were enabled in many cases to build up big fortunes through the sale of securities that represented little or no investment. It was also a means, under certain circumstances, of artificially stimulating credit and enabling companies that needed new capital for construction purposes to get it, albeit upon difficult and disadvantageous terms. It is reasonably clear that direct overcapitalization of the electric railways and the holding-company device for securing additional capital that could no longer be secured directly by the electric railways, resulted in an inflation of credit which in the nature of things led inevitably toward a day of reckoning, regardless of the occurrence of an unexpected emergency such as the World War. Electric railway credit must needs have been like a cat with its proverbial "nine lives," to withstand the multiplied follies of financial mismanagement that have characterized the development of the industry.

CHAPTER XV

THE UNIFORM FIVE-CENT FARE

It is apparent that the reasons already adduced, inherent in the spirit and policies of the electric railway industry as it has been built up in this country, leave little to be desired in accounting for the wrecking of credit that has taken place. Still, to make the picture complete, it is necessary to point out a number of influences, which were in a measure external to the industry, that contributed to the ultimate result. I refer to certain types of restrictions imposed by public authority and to certain reactions of public sentiment which have characterized the public relations of the industry. Undoubtedly the uniform inflexible 5-cent fare in its inception represented a more or less unconscious conspiracy between the public and the promoters of the street railway business to relieve the communities in their organized capacity from the necessity of treating local transportation as a public function, and to put the business of local transportation on a basis that would encourage private speculation and the exploitation of transportation service for private profit. The fixed 5-cent fare was in the early days the very corner-stone of the towering structure of capital inflation built up by the promoters and manipulators of the industry. The fact that labor costs were low, and the hope that economies resulting from the use of electricity as a motive power would make the 5-cent fare an inexhaustible gold mine in urban communities, were largely responsible for the speculative spirit and the unsound policies that characterized the industry. It was not foreseen in 1896 that the time would come when the purchasing power of the gold dollar would undergo a shrinkage of 50 per cent. The margin of profit in a 5-cent fare under the old conditions was sufficient to encourage speculation and to promote overcapitalization and neglect of depreciation. At that time the fixed 5-cent fare was looked upon as a guaranty of continuously increasing earning power for the street railway business, and in this way the inflexible fare, which the street railway men now regard as a fatal limitation upon earning power, was an indirect means of stimulating the abuse of street railway credit in the ways which I have already pointed out.

I have already cited Mr. Newman's testimony where he pointed out that in the old days bankers and promoters insisted upon having the 5-cent fare provision in their franchises. It is a strange irony of fate that the 5-cent fare, which was then eagerly sought for and became the basis for almost unlimited speculation and inflation of securities, should later on, by its inflexibility, have been a cause of the destruction of credit. General Tripp, after describing the bankruptcy and partial disintegration of the New York Railways Company, incorporated as a reorganization of the old Metropolitan Street Railway Company, expressed very emphatically the view that the inflexible fare was a condition that

made the destruction of credit inevitable, in the war emergency, and that, if retained, will make the restoration of credit impossible. Upon this point he testified at page 151 of the Proceedings, as follows:

"Mr. Warren: Would you say that that situation had resulted entirely from the reduced purchasing value of the nickel, or, to state it in another way, from the increased cost of labor and materials and operating expenses generally?"

"Gen. Tripp: Yes, sir.

"Mr. Warren: And which was something which was entirely unforeseen when the re-organized property was launched?"

"Gen. Tripp: Yes, sir. Of course, we acted, and we were all living in a fool's paradise in the street railway business and we suddenly woke up when the war woke us up, to find that no business which cannot increase its revenue under any conditions can live or is sound. The street railway credit, in my opinion, can never be restored under the present system of relationship between the municipalities and the companies. It is necessary to have a credit on a basis that is good not for two years or three years, but for long periods. Capital stock never falls due. Bonds usually run for from 20 to 30 years, and in order to attract private capital into that class of securities hereafter, there must be a basis of relationship which will reasonably assure the investor that for the period for which they are to use his money, there is a reasonable assurance that he will receive a return, and that he will be protected against unforeseen and unusual things, such as this war has brought about."

Later on, at page 152 of the Proceedings, General Tripp expressed the opinion that "the unfortunate situation of the street railway is a * * * condition for which no one is to blame, except, perhaps, the investors or early promoters of these companies, who could not look far enough into the future to see that it was a fallacy and a fundamental error to invest money in a project where it was impossible to increase your income." "However," he continues, "that was universally done, and we can only regret it now." Mr. Warren brought the witness back to this subject of credit at page 153, where he expresses the conviction that credit cannot be restored on the basis of a fixed fare. The Proceedings show:

"Mr. Warren: Reverting to the question of credit, Gen. Tripp, do you think that the investing public is now aware of the effect of this limitation upon income to such an extent that it will be impossible in the future, with a fixed limit substantially higher, perhaps, than 5 cents, to rehabilitate the credit of the companies?"

"Gen. Tripp: It is not, to my mind, so much a question of what the individual investor feels about it. The individual investor usually invests upon the advice of his bankers, but there is no doubt but what the bankers of the country are thoroughly familiar with and thoroughly alarmed over the situation.

"Mr. Warren: And any remedy ought to involve the elimination of the fixed maximum?"

"Gen. Tripp: No other solution, in my opinion, would be adequate, even if cities should remit all taxes, and relieve the street railway companies of the burdens of paying, and all charges of that character. It would not affect the real situation. In the first place, the amount involved is not sufficient to make up the difference, and, in the next place, it is attacking the symptoms. Even permission to increase the fare on the basis of the present relationship is entirely inadequate. That does not solve the problem. The problem is one which requires a sound basis upon which to rest, but which permits of different solutions in different localities. Some communities may require a street railway service that the population in itself would not warrant, and perhaps it would be impossible to assess a fare high enough to produce sufficient net. In those particular localities, if they desire such service, the remedy is through taxation to support it, or some other methods. Zone systems may be desirable in some cases; and so, I think, the basis must be fixed upon which these various solutions may rest.

"Mr. Warren: So it is not only a matter of possibly higher fares, but a matter of relations between the company and the car-riding public that it serves?"

"Gen. Tripp: I think a new scheme of relationship must first be devised."

Whether the 5 cent fare was sufficient, during the pre-war period, to pay the full cost of electric railway service appears to be a question of local conditions and point of view. In view of what is now being accomplished by the Cleveland

Railway Company, the Interborough Rapid Transit Company, the Philadelphia Rapid Transit Company, the Chicago Surface Lines, the Capital Traction Company, the Union Street Railroad Company of New Bedford, the Detroit United Railway, the Indianapolis Traction and Terminal Company, the San Francisco and Seattle Municipal Railways, and certain other electric railway systems, it cannot be doubted that prior to the era of war prices the 5-cent fare furnished ample revenue in many localities to pay the full cost of service including full provision for depreciation and a fair return upon a conservative investment.¹ Some of the witnesses for the Electric Railway Association gave sweeping testimony to the effect that under the 5-cent fare the companies could not have done these things, but their testimony is not convincing except with respect to electric railway properties that were constructed and operated under relatively unfavorable physical conditions, or in sparsely populated districts, or under exceptionally severe franchise or tax conditions. It is surely demonstrated by the testimony and by the supplementary data submitted to the Commission that the nickel is a convenient coin and the 5-cent fare a habit, but that otherwise there is no logic in a uniform rate of fare for all communities alike, regardless of location, topography, density of traffic and other major elements entering into the cost of service. The fact that the flat 5-cent fare had no fixed relation to the cost of the service rendered to individual car riders or to the average cost of the service rendered in particular communities was undoubtedly an encouragement to speculation where the fixed fare was supposed to be more than enough, and deterrent to necessary credit where the fare was proven to be too little. There is great force in General Tripp's contention that there is little likelihood of electric railway credit ever being fully restored on the basis of an arbitrary, fixed fare, whether it be five cents or some higher figure. So long as credit rests upon earning power, and earning power rests almost exclusively upon passenger revenue, the fixed, uniform fare is theoretically a broken reed for credit to lean upon. Practically, it may serve as a reasonably adequate support in certain communities where operating conditions are favorable and the five-cent psychology strong.

CHAPTER XVI

SPECIAL TAXATION AND FRANCHISE OBLIGATIONS

Out of the riot of speculation and overcapitalization in the early days, coupled with the general belief, fostered by the policies of the companies themselves, that they were earning enormous profits, grew a spirit of jealousy and hostility on the part of the people who deemed themselves to be the owners of the public streets and looked upon themselves as silent partners in the street railway business, entitled to a share in the profits because of their contribution of the rights of way over which the street cars run. This jealousy and hostility was greatly intensified by the overcrowding of cars and other faults of service which seemed to be the result of an arrogant and selfish spirit on the part of the street railway managers, fostered by their possession of a monopoly and by the increasing public need for the service they rendered. It is now recognized by spokesmen of the street railway companies, and by every student of street railway policy, that private ownership and operation of this utility cannot be successful at the present or in the future without the existence of a spirit of cooperation between the communities and the companies that serve them. The financial policies and conditions discussed in previous chapters of this report developed not merely an estrangement but a feeling of bitter antagonism on the part of the public against the companies. The lure of prospective profits under the 5-cent fare had unquestionably led street railway promoters into devious paths and corrupt practices in their efforts to secure favorable franchises and beneficial legislation. Reprisals were now in order. The people found that a franchise, even if corruptly granted, was irrevocable. Bribed aldermen had authority to give away public rights that the community *en masse* had no power to recover. The public realized that in the power of taxation it had a weapon by which it could force the street railway companies to give up some share of their profits, even where the franchises were perpetual and the fares fixed. In those parts of the country where franchises had been granted for a limited term, the public made their renewal the occasion for imposing upon the street railway companies heavy financial burdens on the theory that the cities should be compensated for what were considered to be immensely valuable grants. Out of these conditions and out of this feeling of resentment, public policies were developed that undoubtedly imposed upon the electric railway business unusual financial burdens, burdens which fell upon the companies while they were operating under the fixed fare and had sufficient earnings so that they could be compelled to render adequate service. Taxation becomes a habit with public bodies wherever subjects of taxation are discovered from which large revenues can be derived without danger of reaction at the ballot box. The policy of laying burdens upon the electric railway industry

gained a momentum that was very little checked by the change in the financial condition of the companies resulting from stricter public regulation and altered economic conditions. Even where the arbitrary limitations of the fixed maximum fare has been removed in the process of the establishment of the policy of continuous state regulation, so that taxes and franchise burdens are included in the operating expenses and recognized as an element of the cost of service to be reckoned with in fixing the fares paid by the car riders, comparatively little has been done to relieve the electric railway industry from the special taxes and burdens formerly imposed. The extent of these burdens, and perhaps more particularly the spread of public antagonism indicated by their imposition, were undoubtedly a factor in the shrinkage of the companies' net earnings and the impairment of their credit. In the era when the street railways were capitalizing hopes the effect of public antagonism and the public use of the taxing power had not been properly discounted.

Nevertheless it does not appear upon analysis that the effective burdens laid upon the electric railway industry through special forms of taxation and through special franchise requirements are as great as they are sometimes assumed to be. The figures accompanying Chart C-122, introduced by Mr. James W. Welsh, statistician of the American Electric Railway Association, show the total amount of taxes paid by the electric railways during the census years 1902, 1907, 1912 and 1917, and the estimated amount of taxes paid during 1918. The figures also show, except for the year 1918, a distribution of the taxes into two classes: (1) taxes on real and personal property, and (2) taxes on earnings, capital, etc. The 1918 figures are estimated from the returns of a large number of companies made to the Association. Mr. Welsh's figures, introduced at page 117 of the Proceedings, to accompany Chart C-122,¹ are as follows:

"Item	1902	1907	1912	1917	1918
Taxes (Total)	\$13,078,899	\$19,775,602	\$35,027,965	\$45,756,695	\$49,496,334
On Real and Personal Property	5,835,542	9,464,616	15,658,239	21,804,619	.....
On Earnings, Capital and Other Taxes	7,243,357	10,310,986	19,369,726	23,952,076	.....
Per Cent of Operating Expenses	9.19	7.87	10.55	10.11	9.93"

It is noteworthy that the ratio of taxes to total operating expenses has not increased very greatly since 1902. It is shown that during that year taxes amounted to 9.19 per cent of operating expenses, while during 1917 they were 10.11 per cent. Mr. Welsh's estimate for 1918 indicates that although the amount of taxes paid was about \$3,760,000 more than in 1917, this increase was proportionately less than the corresponding increase in operating expenses.

Mr. Welsh also introduced Chart C-132 to show the extent of the combined burden of "paving and other imposts and taxes." Expenditures other than taxes are not based upon the census returns, but upon answers to a questionnaire sent out by the Association "to determine the amount expended annually by the electric railway companies on paving, cleaning and sprinkling the streets, transportation of municipal employes, and tolls and maintenance of otherwise public bridges, etc." The figures accompanying the chart indicate the amount of taxes paid, the amount of paving and other imposts, the gross earnings, the per cent of gross earnings used in payment of taxes, and the per cent of gross earnings required

for paving charges and other imposts for each year from 1912 to 1918 inclusive. The estimated figures are shown in parentheses; other figures being taken from the census reports. The figures introduced by Mr. Welsh at page 122 of the Proceedings are shown in the table on the opposite page.

It will be observed that, expressed as a percentage of gross earnings, taxes have remained relatively steadfast during the seven years covered by these figures. They represented 5.98 per cent of gross earnings in 1912, and 6.47 per cent of gross earnings in 1918. The paving charges and other imposts as estimated by the American Electric Railway Association in terms of a percentage of gross earnings showed a somewhat greater fluctuation, but in this case the percentage was lower in 1917 than in 1912, and still lower in 1918, based on the Association's estimates for that year. The total of taxes, paving charges and other imposts combined, shows 8.55 per cent in 1912; 9.38 per cent in 1913; 9.68 per cent in 1914; 9.61 per cent in 1915; 9.01 per cent in 1916; 8.67 per cent in 1917, and 8.57 per cent in 1918. However, we must not lose sight of the fact that included in the paving charges and other imposts are items which may represent, at least in part, items of expense to the municipalities caused by the presence and operation of the electric railways and which, therefore, may be regarded as legitimate elements of operating expense, not as special burdens imposed upon the street railway.

Prof. Charles J. Bullock, of the Economics Department of Harvard University, was produced as a witness on taxation by the American Electric Railway Association. His testimony was based in part upon the statistics collected by Mr. Welsh. At page 649 of the Proceedings he makes the following statement:

"In the year 1917, according to the U. S. Census, the electric railways of the United States paid taxes and other contributions amounting to \$63,279,000, which may be classified as follows:

Taxes on real and personal property	\$21,804,000
Taxes on earnings and capital and other bases	23,952,000
Total taxes	\$45,756,000
Other public contributions	17,522,000
Total taxes and other contributions	\$63,279,000

"The total payments for taxes and other contributions amounted in this year to 8.67 per cent of the gross earnings of the electric railways. This percentage would be moderate in the case of a business where the gross receipts, or annual turnover, amounted to two or three times the capital investment; but it is exceedingly heavy in an industry where there is a capital investment amounting to several dollars for every dollar of annual gross receipts."

Professor Bullock advocated the theory of "equal taxation" and took the position that the electric railways ought to be taxed as nearly as possible on the same basis as other industries. His analysis of the taxation policies of the country shows that in certain respects the electric railways have been discriminated against and, as shown by the statement quoted above, he indicates that on account of the low ratio of gross earnings to investment in this industry taxes levied on the basis of a percentage of gross receipts bear more heavily upon the electric railways than upon most other industries. He recognizes that some of the public contributions which the street railways have been compelled to make came from the days when they "were not regulated and frequently derived large profits from the use of the franchise which they enjoyed." His characterization, from the point of view of the theory of equal taxation, of the

Figures Accompanying Chart C-132 Showing "Paving and other Imposts and Taxes," Paid by the Electric Railways of the United States.

	1912	1913	1914	1915	1916	1917	1918
Taxes	\$35,027,965	(\$38,780,938)	(\$41,139,955)	(\$40,761,586)	(\$43,633,934)	\$45,756,695	(\$49,496,334)
Paving & Other Imposts	(\$15,058,414)	(\$21,372,414)	(\$21,536,481)	(\$20,442,519)	(\$18,472,989)	(\$17,522,593)	(\$16,065,000)
Total	\$40,086,379	\$60,153,352	\$62,676,436	\$61,204,105	\$62,106,923	\$63,279,288	\$65,561,334
Gross Earnings	\$585,930,517	(\$640,857,949)	(\$647,350,574)	(\$636,719,681)	(\$688,968,612)	\$730,108,040	(\$765,000,000)
Taxes, Per Cent of Gross Earnings.	5.98	6.05	6.36	6.40	6.33	6.27	6.47
Paving & Other Imposts, Per Cent of Gross Earnings.	2.57	3.33	3.32	3.21	2.68	2.40	2.10

various taxes and special imposts levied upon the electric railways is found at pages 643 and 644 of the Proceedings, where he says:

"Now looking over the taxes that street railways pay you find that Federal income and excess profit taxes so far as they fall upon street railways are perfectly conformable to the theory of equality and ought not to be removed unless there is an emergency that justifies it. You find that local property taxes are in principle perfectly conformable to the theory of equality and that they ought not to be removed unless there is a very serious emergency that justifies it. You find that these miscellaneous taxes on gross receipts, capital stock and license charges levied in addition to property taxes are frequently more in the aggregate than other properties bear. Sometimes they are not. You will find in various states—I have alluded to the southern states, and some of the western states—you will find there property subject to special taxes and also to privilege and license taxes, and under those conditions there is no inequality in imposing similar charges on street railways. But where, as in New York or Pennsylvania, you have taxation on property and have in addition a gross receipts tax or some other kind of a tax that other property does not pay, you have a departure from the principle of equal taxation and you have a special taxing on transportation which is not consistent with the theory of equal taxation.

"Now I come to the miscellaneous public contributions that I have already alluded to, which in the aggregate are so large, and invite your attention to them. They are an inheritance from the past. They came from the days when street railways were not regulated and frequently derived large profits from the use of the franchise which they enjoyed. Under a system of regulation of public utilities the charges must be assumed to fall upon the street car rider and they amount to a special tax on the transportation industry in all cases where they exceed a figure which fairly represents the special charge that the presence of the street railway tracks in the streets occasions the city.

"About that point, about the amount of the special expense to a city occasioned by street railway tracks, there has always been difference of opinion. The companies have been inclined to think that the presence of the tracks, at least under modern conditions, did not occasion great expense, and the wearing out of the pavement and the surface was due to the use of the tracks by other vehicles than the cars. The cities, on the other hand, have undoubtedly made this theory of charging for upkeep of the streets an excuse for levying special taxes on the transportation industry far in excess of the legitimate charges that the users of street cars should pay. The correct principle seems to be, however hard it may be to apply it, that any special damage, any special extra expense for upkeep of streets under normal conditions may very properly be put upon the street car riders. It should be considered just like an equal amount of tax similar to that which other similar enterprises pay, and the car riders should pay it. Anything beyond that point under normal times violates the principle of equality in taxation and in a crisis like the present is in every way objectionable. A thorough revision of those charges in all cases where they exceed a fair charge for extra cost of upkeep of streets would seem to be one of the things needed."

Professor Bullock's suggestions as to the best way to bring about a modification of the public burdens of the electric railways are full of interest. At pages 644 and 645 of the Proceedings, he says:

"I suggest first the revision of these special charges. They used to be a means of securing to the public treasury a part of the frequently excessive profits of unregulated monopolies. They are today a special charge on the industry of railway transportation and they are not consistent with the principle of equal taxation.

"I suggest in the next place that the other special taxes levied by the states, the additional taxes, gross receipts and capital stock and licenses ought also to be reconsidered and in so far as they lead to a burden of taxation on street railways exceeding that borne by other business enterprises, they should be reduced or abolished.

"I suggest in the third place that relief from the ordinary taxes imposed upon property ought to be the last remedy. It can be justified only upon the ground of extreme emergency and the failure of other relief measures. Before you reduce the ordinary taxes levied on property you should raise your fares to the maximum point that is practicable, looking at the matter from the revenue result. The industry should not be relieved of the ordinary property taxes which other property pays except as a last resort. In some cases, apparently, we are about at that point. The increase of fares in my own state has certainly reached the revenue point and the revenue result is somewhat disappointing. We very likely have got to give relief in taxation if we want to keep a good many of our street railroad tracks down.

"I suggest in the next place that if relief is to be given from the property tax it would be better not to repeal the tax but to suspend its operation for a term of years and to provide for an income tax on the companies during that interval, * * * a tax on net income, if there are any companies that are prosperous. We have one company in Massachusetts, if I remem-

ber, that was prosperous, or was prosperous six months ago; at least it was not unprosperous. If any companies are earning a substantial amount of net income they might pay a moderate income tax. This substitution for a term of years of a tax on net income for a tax on property would maintain the principle that street railways ought to be taxed, and it would, as the industry revives and begins to see better days, bring in a normal contribution to the public treasury.

"I finally suggest that if the Federal Government is to lead the way, reduction might very well be made or total exemption might very well be granted from the Federal income and excess profits taxes. The revenue sacrifice by the repeal of those taxes would be a small thing for the Federal Government. The Federal Government by a very small sacrifice can afford substantial relief. For the state and local governments to set aside their property taxes means a comparatively large sacrifice for a particular locality."

It is undoubtedly true that the taxing and other public burdens levied upon the electric railway companies are far from uniform in the different jurisdictions, and that in some jurisdictions these burdens are extremely heavy. It appears from the testimony that Rhode Island furnishes a good illustration of this fact. Mr. Zenas W. Bliss, Chairman of the Rhode Island State Tax Commission, one of the receivers of the Rhode Island Company appointed at the suggestion of the Attorney General of the State, and the Chairman of the Special Commission which submitted a report on the affairs of the Rhode Island Company to the General Assembly in March, 1918, appeared before the Commission and described the complicated system of taxation in Rhode Island. His description of the taxes to which the Rhode Island Company is subject is found at page 1196 of the Proceedings, where he says:

"The Rhode Island Company pays a property tax, that is, upon its real estate and tangible personal property, in all of the municipal jurisdictions in which it operates. It is also liable to pay a franchise tax in each municipal jurisdiction. These franchise taxes are somewhat controlled by the general law, in that it limits them both up and down. In some municipalities they are not allowed, under the general law, to charge less than a certain per cent. In others they are allowed to charge up to a certain per cent.

"There is a rather peculiar condition in some of our towns, where the town is divided into fire districts. They have delegated to them, these districts, the taxing power, and so they put on a tax in addition to the regular municipal tax, based upon the local municipal valuation. So that, in many towns, the railroad company has to pay two property taxes.

"The state imposes a 2 per cent gross receipt franchise tax and also a 1 per cent gross receipt tax which is, or at least has been, up to the present time, considered a property tax in lieu of any tax upon the stocks and bonds, securities and other intangible property in the corporation in the hands of the holder or owned by the corporation itself.

"The City of Providence imposes a franchise tax of 5 per cent upon the gross receipts of this corporation within the city limits, that, in addition to the taxes imposed by the state, making 8 per cent tax upon the gross receipts of the Rhode Island Company within that jurisdiction. Of course, that is the largest jurisdiction, so far as receipts are concerned, and about 65 per cent of the total gross receipts of the company are collected within the municipal boundaries of the City of Providence.

"I have not the figures brought down exactly to date, but the last available information is to the effect that the total taxes imposed upon this company are approximately 12½ per cent of the gross receipts. It is one of the heaviest taxed public utilities that I know of in the country; and of course the taxation is very excessive."

Mr. W. E. Creed, counsel for the San Francisco-Oakland Terminal Railway Company, which operates the traction lines in nine cities on the east side of San Francisco Bay, and also the trans-bay service from Oakland, Berkeley and Alameda to San Francisco, testified that the condition of the trans-bay lines was extremely precarious, and in this connection he called particular attention to the effect of special taxes and paving burdens. At pages 884 and 885 of the Proceedings, he said:

"I regard the situation there on the east side of the bay as extremely hazardous for the continuance of the service. I feel the death rattle is in the throat of those companies and

that the only relief which will be of any service is immediate relief. The company cannot wait for a complete final and perfected solution. It must have more money to continue that service.

"The difficulties on the east side of the bay under which the company has struggled are common to all of California. These difficulties as I see them are, first, the $5\frac{1}{4}$ per cent state franchise tax on gross revenues, and that $5\frac{1}{4}$ per cent, of course, acts as a reducer of every increase in revenue. Secondly, the old franchise taxes which we collect under the Broughton act, which I should say approximately average around 2 per cent; they amount to 1 per cent under extensions, but I think on an average they would amount to 2 per cent, taking in all cases. Then the paving tax. This situation has occurred in several places in California. The pavement which is perfectly good for ten years has been changed by the municipal authorities to very high class, the pavement being ordered is the very best class of pavement. Now that has resulted in abandonment of pavement which had been paid for by the traction companies, the investment of a far larger sum of money in the most modern approved pavement. That has been a very serious burden to the Traction Division on the east side of the bay, and also to the Key Division, because there never was any reserve to take care, call it depreciation reserve or whatever you want to, of that abandonment of pavement which had an assumed life, we will say, of ten years to run, and yet it has been replaced by more expensive pavement and an absolute loss of the ten years of service of the old pavement borne by the company, and it was an absolute capital loss."

It should not be inferred from Mr. Creed's testimony that heavy taxes and paving obligations are the only causes of the present financial difficulties of the San Francisco-Oakland Terminal Railways. For several years prior to the increase in fares the traffic and revenues on this system remained practically stationary, and the company has been before the California Railroad Commission more than once during this period. The commission in its decision of May 24, 1915, found that this company had a net capitalization of \$45,457,000, consisting of \$28,175,000 of stock, and \$17,282,000 of bonds; that the total cash realized from the issuance of these securities was only \$13,196,705.12; that stock of the par value of \$18,794,738.41 was issued against "intangible property," and that the reproduction cost less depreciation as of June 30, 1914, including multiples, cost of acquisition, and interest during construction as applied to operative lands was \$23,641,893.30. These matters are set forth in Decision No. 2412 of the "Report of Decisions of the Railroad Commission of California" at pages 4 to 6 and 39 and 40. On August 11, 1919, the California Railroad Commission, in an order permitting certain increases of fares in addition to increases previously authorized, said:

"It has been repeatedly pointed out by this Commission that the only permanent remedy for the financial difficulties of this company is a thorough-going reorganization of its finances. As long as the Key System rests on the present unsound financial structure, it is bound to continue in financial difficulties in the future as it has in the past. The rate increases will not effect a complete or permanent remedy of this situation. If it were practicable to do so, we would make reorganization one of the conditions of this order."

As a matter of fact, the taxes paid by the San Francisco-Oakland Terminal Railways Company, at least during recent years, have not been out of proportion to the average taxes paid by the electric railways of the country, as will be seen by the following:

Year Ended June 30	Gross Operating Revenue	Taxes	Per Cent of Taxes to Gross Operating Revenue
1913.....	\$4,547,585 98	\$213,640.01	4.7
1914.....	4,562,113 23	238,884.37	5.24
1915.....	4,353,891 29	251,882.01	5.76
1916.....	4,417,847.80	264,992.27	6.0
1917.....	4,416,398 29	268,387.36	6.08

It will be observed that during the period from 1913 to 1917 the taxes increased considerably faster than the company's gross revenue, although in 1917 the taxes were only 6.08 per cent of the gross operating revenues, which is slightly less than the average for the entire country as shown by the census report. The California Railroad Commission's order of August 11, 1919, shows that during the ten-months period from September 1, 1918 to June 30, 1919, while increased fares were in effect on this company's lines, the gross operating revenue was \$4,654,465 and the taxes were only \$220,281, or 4.73 per cent of the gross operating revenue. Figures are not available to show the amount of paving charges and other special imposts borne by this company, but the tax figures seem to indicate that Mr. Creed in his testimony overestimated the importance of this particular factor in the financial troubles of the company for which he spoke.

Mr. Harlow C. Clark, a witness for the American Electric Railway Association, called attention to another point that is of considerable importance in connection with a discussion of the effect of special franchise obligations upon the credit of the electric railways. In the valuation of street railway properties for the determination of the fixed capital to be recognized in resettlement franchises, acrimonious controversies have frequently arisen with respect to the disposition of the item of paving. The cities often object to this item on the ground that the pavements are public property, notwithstanding the fact that the companies may have been called upon, under the provisions of their franchises, to install the pavements in and about their tracks at their own expense. At page 909 of the Proceedings, Mr. Clark says:

"If you will look into the capitalization account of those companies you will find a very large amount of capital which is there because the investments in paving and other municipal requirements, and which are fixed charges, are now paid by these companies. I have in mind that when the Rhode Island Company was valued by a commission appointed by the legislature, it was discovered that almost one-tenth of its capitalization was due to payments made on account of paving and other requirements of that kind."

New York City is peculiar in that it still has a large number of operating companies. With the partial disintegration of the New York Railways system and the Brooklyn Rapid Transit surface lines the number of these operating companies has recently been increased. At the present time there are approximately thirty-five separate companies.² The aggregate operating revenue of all these companies for the year ended June 30, 1919, was \$110,191,682.33, and the total amount of street railway taxes accrued during that year was \$7,909,678.82 or 7.18 per cent. One of the heaviest taxes in New York is the special franchise tax which applies to the structures of the electric railway companies found in the public streets and the intangible rights under which these structures are maintained and operated. The burden of taxation in terms of a percentage of gross revenues shows wide variations among the different companies operating in New York City, as will be seen from the table on the following page, compiled from the Public Service Commission's Summary for the year ended June 30, 1919:

STREET RAILWAY REVENUES AND TAXES IN NEW YORK CITY

Company	Percentage of		
	Total Street Railway Operating Revenue	Street Railway Taxes	Street Railway Taxes to Operating Revenue
Hudson & Manhattan R. R. Co.....	\$ 5,633,257.25	\$ 336,698.80	5.98
Interborough Rapid Transit Company			
Subway division	24,632,207.96	882,175.29	3.58
Elevated division	18,575,001.87	2,251,981.61	12.12
New York Consolidated R. R. Co.....	15,667,098.37	864,451.10	5.52
Brooklyn Heights R. R. Co.....	8,621,560.27	756,905.46	8.78
Bridge Operating Company	222,326.90	11,868.86	5.34
Brooklyn, Queens Co. & Suburban R. R. Co..	1,356,871.11	74,112.70	5.46
Coney Island & Brooklyn R. R. Co.....	1,871,734.97	115,088.12	6.15
Coney Island & Gravesend Ry. Co.....	91,802.60	4,767.49	5.19
Nassau Electric R. R. Co.....	4,965,758.83	187,735.87	3.78
South Brooklyn Ry. Co.....	845,497.96	80,580.76	9.53
New York Railways Co.....	11,863,601.14	1,248,196.88	10.52
Second Avenue R. R. Co., Receiver.....	842,749.71	85,920.97	10.20
Brooklyn & North River R. R. Co.....	193,331.48	11,509.61	5.95
Third Ave. Ry. Co. (incl. Kingsbridge Ry.)	3,887,170.28	286,295.33	7.37
Dry Dock, E. B'way & Battery R. R. Co....	530,060.80	48,849.91	9.22
42nd St., Manhattanville & St. Nicholas Ave. Ry. Co. (incl. 3rd Avenue Bridge Co.)..	1,705,121.07	112,784.51	6.61
Belt Line Corporation	562,869.79	42,961.50	7.63
Mid-Crosstown Ry. Co.....	36,781.10	2,749.14	7.47
New York City Interborough Ry. Co.....	709,246.84	50,755.59	7.16
Pelham Park & City Island R. R. Co.....	19,012.65	2,718.63	14.30
Southern Boulevard R. R. Co.....	224,847.48	13,559.37	6.03
Union Ry. Co. (incl. Bronx Traction Co.)..	2,767,735.84	183,663.86	6.64
Westchester Electric R. R. Co.....	623,005.15	30,238.21	4.85
New York & Queens Co. Ry. Co.....	1,044,334.43	58,481.97	5.60
Long Island Electric Ry. Co.....	237,287.44	12,591.68	5.31
New York & Long Island Traction Co.....	566,163.28	29,544.96	5.22
Ocean Electric Railway Co.....	174,684.64	6,027.70	3.45
New York & North Shore Traction Co.....	157,705.40	12,698.82	8.05
Manhattan & Queens Traction Corp., Rec'ers	270,150.12	12,456.88	4.61
Richmond Light & R. R. Co.....	491,577.64	27,112.89	5.52
Staten Island Midland Ry. Co.....	307,534.04	18,833.68	6.12
Southfield Beach Ry. Co.....	16,370.60	2,551.30	15.58
Manhattan Bridge Three-Cent Line	153,110.78	23,686.86	15.47
Bush Terminal R. R. Co.....	252,943.17	14,161.85	5.60
Van Brunt Street & Erie Basin R. R. Co....	71,169.37	4,960.66	6.97
All Companies in New York City	\$110,191,682.33	\$7,909,678.82	7.18

For the year ended June 30, 1918, the aggregate taxes of the electric railways of New York City amounted to \$8,232,321 as against total railway operating revenues of \$103,500,189. The taxes were 7.95 per cent of the revenues. The Interborough Rapid Transit Company's 1918 taxes on account of the subways were \$1,649,411, almost double the amount for 1919. It appears that the Interborough Rapid Transit Company's federal taxes for the year 1918, just before its profits disappeared, were so great as to cause a taxation "peak" in that year for all the electric railways of New York City taken together.

The census figures show that the aggregate revenues of the electric railways of the country from railway operations were \$650,000,000 in 1917. The final figure, \$730,000,000, used in the testimony, was reached only by the inclusion of nearly \$60,000,000 of revenues from auxiliary operations and over \$20,000,000

of non-operating income. As we have seen, several witnesses called attention to the fact that several dollars of capital are required in the electric railway business to produce one dollar of annual revenues. If we were to take the net capitalization including real estate mortgages and floating debt as the measure of the investment in 1917, we should have \$5,056,554,324 of capital producing \$650,149,806 of revenue, or 7.85 to 1. Taxes amounting to 6.27 per cent of gross earnings would, on this basis, amount to only $\frac{8}{10}$ of one per cent on the investment; and the 8.47 per cent of gross earnings representing taxes and paving and other imposts taken together would be only 1.08 per cent on the capital. This suggests the conclusion that, after all, the electric railways are not very heavily taxed on the value of their property, or else that their net capitalization is subjected to an enormous shrinkage to get it down to the basis of taxable value. What a conservative investment means to street railways and to their credit is clearly indicated by the contrast between the situation in Cleveland in this respect and that in the rest of the country. The earnings of the Cleveland Railway in 1919 were approximately 44 per cent of capital value, while the earnings of the electric railways of the country at large were only 12.86 per cent of the net capitalization as found by the Census Bureau. This is $3\frac{1}{2}$ to 1 in favor of Cleveland. It indicates either gross overcapitalization in the country at large or tremendous street railway earning power in Cleveland as compared with other cities.

In any case, taxes are the enemy of credit, for they fight with capital charges for what is left of the revenues after operating expenses are paid, and the larger the capital in proportion to annual earnings the more sensitive will credit necessarily be to every increase in taxes and special imposts.

CHAPTER XVII

USE OF POLICE POWER TO COMPEL MORE AND BETTER SERVICE

About fifteen years after the introduction of electric traction the public gradually awoke to the fact that it could use the police power as well as the taxing power to bring the electric railways to time. It came to appreciate that with all the privileges and guaranties which they had obtained through their charters and their franchises, they were still under legal obligation to render adequate service and that they could be forced to give such service as a condition of the monopoly privileges they enjoyed. The result was the passage of public utility laws and ordinances and the creation of public service commissions with power to fix and enforce standards of service. It had long been an axiom in the street railway business that the profits were in the straps, but the public began insistently to demand seats instead of straps and refused to recognize the right of the companies to exploit the straps for profit. While it was not found practicable to compel the companies to supply a seat for every passenger during the rush-hour, nevertheless standards of service were established which, under the conditions of the most congested traffic, required the companies to move as many cars during the rush hours as the track facilities would permit. The public also insisted on the equipment of cars with vestibules for the protection of the motormen and upon better heating, lighting and ventilation for the comfort and convenience of the passengers.

The extent to which street railway service has been brought, at least theoretically, under public service commission control is well illustrated by the testimony of Mr. W. D. George, one of the receivers of the Pittsburgh Railways Company, at page 306 of the Proceedings, where he says:

"I think the public service laws of the different states have very well covered that. In the State of Pennsylvania, it is very effective. We cannot move in the management of the company in Pittsburgh without complaint being registered by the City of Pittsburgh before the public service body of the State. They tell us to put on more cars. If some citizen in some community complains of the service that is afforded that particular community, he has a right to be heard before the Public Service Commission, and they say whether we shall put that service on, or whether we shall not put that service on."

A particularly bitter complaint against the policies that have been pursued by public service commissioners in their relation to the electric railways was voiced by Mr. James L. Quackenbush, General Counsel of the Interborough Rapid Transit Company, who followed Ex-Governor Foss of Massachusetts on the stand. After stating that a public service commission has existed in New York for twelve years and that the troubles arising from state commission control are not "with the law, but with its administration," Mr. Quackenbush says at pages 817 and 818 of the Proceedings:

"The first time that anything has been done by the Public Service Commission in the First District, which is the New York City District, of the slightest benefit to the railroads, was done last week by Commissioner Nixon. Since the first day of July, 1907, down to the first day of July, 1919, I have been in daily contact with the administration of the Public Service Commission in the First District, and I cannot now recollect a single transaction that has been of the slightest benefit to the railroads under their jurisdiction.

"Now, the trouble has been that, instead of the members of the commissions carrying out the theory of Gov. Hughes in the Session of 1907, when the Public Service Commission Law was first enacted, namely, that the commission would be a tribunal, impartial and fair, between the industry and the public, that it would be a means of the prevention of any further prejudice against the industry on the part of the public, that it would ascertain the truth and tell the people the truth, that the people, learning the truth, would be educated up to carrying out what is always the desire of the people—to do justice—that function completely and absolutely failed."

A little farther on Mr. Quackenbush expresses sharp disagreement with the testimony of Mr. Foss. He alleges that the public service commissions in New York have failed to give the companies proper protection, and at page 819 of the Proceedings, he says:

"In other words, it has been a failure on the part of individuals to recognize that they were there as protectors of the people who had their investments there. I go further than that. I say that the Public Service Commission regulation in New York City failed because it did not courageously put a stop to the prejudice that was shown by the former Governor of Massachusetts here this morning.

"Now, I challenge, so far as it relates to the City of New York, the accuracy of every statement made by that gentleman. There is no warrant for it, and yet it exists, and it exists solely and only because those men who were in a position all those years to know the truth and did know the truth, kept the truth to themselves and did not convey it to the public whom they represented.

"From the time that the commission took office, on July 1, 1907, down to this act of Commissioner Nixon, the whole problem was to control the outgo of the utilities, and no heed or regard was paid to their income whatever. Notwithstanding that the surface lines, of the New York Railways Company, were going down-hill, were going fast towards a receivership last year; notwithstanding that we warned them of it, advised them of it, that our monthly reports, quarterly reports, annual reports, frequent hearings under oath, showed the fact, they continued to make orders to increase service. They took the view, and both commissions took the view, that they were not concerned with the question of how we were going to get the money to provide the service—and when I said a while ago that I was slightly familiar with the operation of the so-called up-state commission, I meant [not] by actual appearance before them, although I represent two roads that are within their jurisdiction, but I do know about their operations, because it is my business to watch the operations of both commissions."

Mr. Quackenbush emphasized the fact that the New York Commission kept on issuing service orders regardless of the financial condition of the companies. In Connecticut the police power, or perhaps it would be more correct to say the "police influence," was used to force additional service through unprofitable extensions. Mr. Lucius S. Storrs, President of the Connecticut Company, described the situation at pages 434 and 435 of the Proceedings, as follows:

"One little line of New England of interest in a small village was a stage running from the railroad station up into the village, as so many of these villages were founded away back from what was ultimately the line of transportation, or on the line of transportation of those days, the stage; and when the steam railroads came through, the lines of transportation changed. The stage was operating from this small station to the little rural community, an attractive little New England village. Some mill owner who had made a lot of money up there perhaps thought it would be a good idea to put a horse car line, and he put in a horse car line two and a half miles long.

"It was very profitable and ran along. The car ran on rails instead of the stage on the road. It was a typical old corduroy road. If a man had a house a little bit beyond the center of the town, distant from the railroad station, he thought it would be a good idea to extend it out there, and he extended it out there. A mile or two beyond that was a cemetery and lots of people wanted to go out to the cemetery, and they extended it out there. A little beyond that was a water works plant and ultimately they extended it out there because a few

people worked out there and they wanted to ride. In the meantime it had been developed from the horse car to the trolley car. There was a beautiful hill a little further away with a lot of chestnut trees on the side, and a lot of people wanted to go out there, and so they built a line out there to accommodate the people who wanted to go out to gather the chestnuts. We became responsible for that line.

"The Chairman: Were these extensions voluntary?

"Mr. Storrs: Some of them were at the request of the community and some of them were voluntary. Most of them were at the urgent request of the community. I am not sure but what the Chairman of the Board of Selectmen had some interest in the chestnut grove and wanted to get the people out there to see it.

"The result has been that during the last year that line with only one car, a single-truck car, took in \$2,000, and it cost \$8,000 to operate the car, that is, out of pocket cost; I do not mean to say the depreciation and fixed charges, but the actual dollars of outgo to pay for the construction and the maintenance, to maintain that individual car, together with the actual cost of the power, the power at that point being bought on the kilowatt basis.

"This was frequently the case throughout the communities, a gradual development of inconsistent demands. Of course, it has been rather inconsistent or rather inconceivable that the owners of the utility would seriously oppose the insistent demands of the community, which itself gave the franchises essential to the life of the corporation, and where that became a serious pressure frequently it was granted.

"Commissioner Meeker: In the end do you think that such extension should be passed upon by a state commission rather than by local authority?

"Mr. Storrs: Those in New England are passed upon so. And in connection with that there is now unanswered an order of the Public Utilities Commission in one of the New England states directing the electric railway to build an extension, in this case only about four miles long, to serve a little community, that community having a double-track line between the center and the large city adjacent, but the town hall happened to be in one part of the community and a large part of the inhabitants in that village off from the main line of transportation, and the people wanting to attend town meetings had to take the trolley into the center some four miles and back out to the town hall some six miles. The people in that community, rather important politically and otherwise, successfully pressed their case before the commission and an order was issued directing the electric railroad to build a line something between three and four miles as I recall, to connect that little portion of the isolated community with the town hall; that is practically what it was, the larger portion of the community having already a double-track line and practically two connecting with the main civic center. There was a case in which the commission itself had ruled upon it, and needless to say the corporation has not been able to obey the order of the commission.

"The Chairman: That is the street railway corporation?

"Mr. Storrs: The street railway corporation has not been able to do it. The authority was issued two or three years ago and we came upon the rocks at about that time and have not been able to finance orders of that sort, and the commission itself has not pressed its demands to the court nor has the community pressed its demands to the court and through mandamus forced the company into the construction of the line.

"Commissioner Wehle: Is that in Connecticut?

"Mr. Storrs: Yes, adjacent to New Haven.

"The Chairman: Have you taken any steps to abandon that track which cost \$8,000 to operate with \$2,000 revenue?

"Mr. Storrs: We have now a little publicity going forward to an immediate cessation of service on that line.

"The Chairman: So there is a remedy for the company?

"Mr. Storrs: There is. What the local remedy is we do not know, but the practical remedy must be that.

"Commissioner Wehle: What is the name of that point?

"Mr. Storrs: That is up to Westport, from the railroad station below Saugatuck. You will recognize that going up above Westport and on up to the water works."

Mr. James D. Mortimer showed that in Wisconsin, a pioneer state in public service regulation, the police power of the state was invoked to reduce fares below the ordinance rates. His testimony on this point is found at pages 765 and 766 of the Proceedings:

"Mr. Warren: There is commission regulation in Wisconsin, is there not, Mr. Mortimer?

"Mr. Mortimer: There has been commission regulation in Wisconsin since 1905.

"Mr. Warren: Your company has been subject to that regulation ever since it was adopted?

"Mr. Mortimer: We have been the experimental ground for most of the regulation for street railways in Wisconsin, and also the experimental ground for the most of the regulation for street railways in the United States.

"Mr. Warren: Will you give a brief sketch of the regulation and its effects as it related to your company?"

"Mr. Mortimer: Regulation in Wisconsin first was attempted in 1896 by the Common Council of the City of Milwaukee, acting under its police powers. It sought, following a consolidation of seven detached lines making up the unified system, to substitute a commutation fare of six tickets for twenty-five cents in lieu of the five-cent cash fare, with universal transfers.

"That case went to the Federal District Court on the ground of confiscation, and the Common Council resolution was declared to be confiscatory. No appeal was ever taken by the municipality. It was one of the early cases of regulation where a Federal court held that street railway utilities were entitled to a reasonable return, and any order of a governmental body reducing such return below current ordinary interest rates was confiscatory, and therefore in violation of the Constitution.

"In 1905, the Legislature passed the Railroad Commission Law. The Railroad Commission Law was primarily designed to take care of steam railroads and telegraph companies. It was not entirely clear from a reading of the statute that it covered street railways.

"Despite that fact, a case was brought by the City of Milwaukee in the following January after the 3-cent fare in Cleveland, to have the railroad commission ordered to discontinue the franchise rates of fare and install a fare of three cents.

* * * * *

"The 3-cent fare case was reinstated again in 1907, following the enactment of an amendment to the Railroad Commission Law, which clearly put the street railways under the jurisdiction of the railroad commission. The case was finally decided by the railroad commission in August, 1912. The details of the testimony, the conclusions, the analyses, and related matters are clearly set forth in Mr. Doolittle's book on the cost of passenger transportation service.¹ That book I am going to offer to the commission for the detailed information. The book carries data down to 1912. The commission's order required that the company discontinue the sale of twenty-five tickets for one dollar, and substitute in lieu thereof the sale of thirteen tickets for fifty cents, retaining a five-cent cash fare and six tickets for twenty-five cents.

"It also ordered the extension of the single fare limits, the city fare limits, the five-cent limits, out a distance—outward from the center—of a mile to a mile and a half, thereby increasing the length of the ride."

The exercise of the police power has undoubtedly gone far in neutralizing the effect of the Dartmouth College case and in casting doubt upon the vested rights of corporations based on that decision. Obviously, no transportation line can be so advantageously located for profit as to be proof against the effects of public regulation, calling continually for more service, better service and lower rates. The power to regulate, like the power to tax, if unlimited, is the power to destroy. The electric railways generally during recent years have professed faith in the virtues of state regulation, but their advocacy of this policy appears to have had its basis in the choice of what they have regarded as the lesser of two evils. They have been glad to appeal from the local authorities to a state commission supposed to be more free from the pressure of interested public opinion and better equipped to render decisions based upon the ascertainment and recognition of vested values. It is maintained by many electric railway men and by most public service commissioners that state regulation has had a steadying effect upon credit and has in fact been helpful to the companies. Still, the discovery of a means by which the public obligations that are a corollary of monopoly in the rendering of an essential public service can be enforced upon an industry whose financial structure has been reared upon the assumption of protected privilege for exploitation could not do otherwise than have a disquieting effect upon the holders of inflated securities. At any rate, the possibilities of the police power give convincing proof that the best bulwark of street railway credit is public good will and cooperation, not the guaranties of the franchise and the mandates of the court.

CHAPTER XVIII

PUBLIC REGULATION OF STOCK AND BOND ISSUES

The reckless financial policies pursued by the electric railways in matters affecting capitalization were one of the important moving causes for the establishment of state regulatory commissions. It is one of the usual functions of these commissions to exercise control over new security issues. This power of control was undoubtedly given more for the protection of future investors than for the preservation or resuscitation of street railway credit. It was the thought that the companies had enjoyed too much credit, not too little, and by abusing it had brought great losses upon the investing public. It was the theory that under public service commission regulation new securities could not be issued except for cash, and that the cash received from their sale would be put into the property for proper capital purposes. Thus the investor would be sure that the securities he bought would represent something tangible. It was supposed that this assurance, given by a responsible state commission, would make new security issues attractive, and thus in fact improve their salability. This improvement in street railway credit, however, was anticipated as a by-product of regulation, in large measure incidental to the main purpose, namely, the protection of the investors.

The fact that the Massachusetts street railways were among the first to suffer a general collapse of credit in the present era of distress, although they had enjoyed the benefits of state regulation longer than the companies of other states, raises the question as to what effect public regulation has had upon street railway credit. In the emergency proceeding for increased fares instituted by the Public Service Railway Company in 1918, Mr. Thomas N. McCarter, president of the company and at that time chairman of the War Board of the American Electric Railway Association, answered this question squarely. Upon cross-examination by Marshall Van Winkle, Esq., counsel for the New Jersey State League of Municipalities, on May 13, 1918, he made the following statement, which is found at pages 1031 and 1032 of the transcript of the proceedings before the New Jersey Board of Public Utility Commissioners:

"Q. The Massachusetts Commission has been a pioneer, has it not, in granting increased fares to street railway companies?

"A. It has been one of the earlier commissions to do it, yes.

"Q. Do you know that the Massachusetts Commission has made an intensive study for a number of years of these problems?

"A. I know they are now, the Massachusetts Commission, and I think the Legislature is studying the working out of a very serious situation they have in that state.

"Q. Wouldn't you agree that the conclusions of the Massachusetts Commission as to the necessity of the business control under a commission like this, for instance, that we are now before, going along with any increase of rates, which are violative of franchise contracts and which are made necessary by the break-down of the service under existing private management, are entitled to great weight, I mean, by this Commission, in any conclusions on the questions involved in this proceeding?

"A. What is entitled to great weight?

"Q. The Massachusetts Commission's findings are entitled to great weight by this Commission.

"A. I think the Massachusetts Commission is a strong, vigorous and honest Commission. I think the power of regulation, as administered in the State of Massachusetts in the past 25 years, has brought these companies to the brink of insolvency. There hasn't been a dollar of capital issued by a Massachusetts utility except with the direct approval of the commission over 25 years, and the whole industry in the State of Massachusetts is in practical insolvency.

"The principle of regulation in Massachusetts has practically brought the public utilities in Massachusetts to the point where the policy of regulation as enforced by the Interstate Commerce Commission has brought the railroad companies. We might as well look the situation right in the face."

Mr. McCarter's views as to the effect of state regulation upon credit do not seem to be shared by the Massachusetts witnesses who appeared before the Commission. None of them had the hardihood to claim that conservatism in capitalization was the real cause of the breakdown of credit in that state. Interstate Commerce Commissioner Eastman, who gave the Commission a most illuminating analysis of the Massachusetts situation, points out at page 2059 of the Proceedings that "the chief source of strength has been the supervision over capitalization." Nevertheless, Mr. McCarter's challenge raises a point that demands serious consideration. It is claimed by the companies and admitted by the public that the state commissions have in large measure failed. The present condition of the electric railway industry undoubtedly puts a burden of explanation upon the commissions. Is it a case of too much regulation or too little? Mr. Harold L. Stuart, testifying from the point of view of an investment banker, expresses the opinion at page 186 of the Proceedings that state commission control had a beneficial effect upon credit. In reply to questions by Mr. Warren, he says:

"Mr. Warren: To what extent have the laws of any particular jurisdiction had an effect upon the selling quality of the bonds issued by utilities in that jurisdiction?"

"Mr. Stuart: They have quite a considerable influence. For example, when the public service commissions throughout the country began to be formed, a great interest was aroused on the part of the investors, and I think that the very fact of those public utility commissions being formed influenced a great many people to buy street railway and other public utilities securities that theretofore were not interested. They believed that the public service commission would be a disinterested party, in so far as any local situation was concerned, whereas the local authorities would be very much interested, and the investor felt that he would receive better and fairer treatment from the disinterested party than he would from the interested party.

"Mr. Warren: If, for any reason, in any particular state or other jurisdiction, a system exists, whether of law or franchise, which is antagonistic, or is not calculated to promote the development and security of a public utility, what effect has that on the bonds?"

"Mr. Stuart: It has the effect of keeping people out of the state entirely. There have been such situations. For example, I recall a few years ago, in both Georgia and Texas, the sentiment in those states was such that it was very difficult, or impossible, to sell public utility securities that came from those states. The investment bankers have no control over what their client does with the money, and the great majority of clients are seekers after information, and if they find that in any given community or state, or in any given industry, conditions are not very favorable, their money will go elsewhere."

It cannot be doubted that the adoption of the policy of state regulation of stock and bond issues did have an effect, at least initially, upon the credit of the electric railways by stimulating the investor's appetite for a class of securities which had theretofore come to be regarded as highly speculative. It cannot be doubted, either, that state regulation of security issues did not have the effect of putting the street railways upon a financial basis where they could withstand

the other influences at work to undermine and destroy their credit. The question here is whether the restrictions of state regulation actually lessened the companies' power of self-help when the heavy strain came upon them. The trouble with state regulation as ordinarily practiced appears, upon analysis, to be this: it destroys the speculative possibilities of the investment, without giving it the guaranties of a secured investment. The process of disposing of bond issues can no longer be "lubricated" by a judicious distribution of bonus stock. If big earnings in the future promise a high return upon the investment, regulation holds out the counter-promise that the benefit will be taken away from the security holders and given to the public, or at the least the investor will be required to share the benefit with the public. On the other hand, regulation does not guarantee earning power: it merely promises, within certain limits, an opportunity to try to earn. Moreover, the commissions generally have been given no authority to compel financial reorganization and the reduction of existing capitalization. Under these circumstances, about all they can do is to make sure that new bond and stock issues represent new money used for proper capital purposes. If the bonds already out are in excess of the conservative value of the property or constitute an undue percentage of such value, then the security of new bonds will be inadequate although they represent 100 cents on the dollar of new cash invested in useful and necessary street railway property. Under such conditions, the company needs, not a public service commission, but a receiver to give security to the new investor. The situation is even more desperate where the new money is to be brought into the enterprise by the sale of stock. Every new share, unless an issue of preferred stock is put out, will have to lie in the same bed with the shares already outstanding. Under these conditions, it is not strange that under state regulation, except as affected by special guarantees under service-at-cost contracts or by the good will and parental interest of holding companies, the issuance of street railway stocks practically came to an end. That meant that new money could be secured only by the sale of bonds, and that the proportion of bonds outstanding to total capitalization would gradually increase. The result of this would be the absorption of a larger share of the return on capital by the fixed charges, and a gradual shrinkage in the "margin of safety" upon which the banker depends as a guaranty warranting the purchase and distribution of additional bonds. Of course, if the bonds already outstanding represent the entire investment, and if the stock has never earned any dividends, the issuance of additional bonds on account of new investment, without any corresponding issuance of stock, will not make the bond holders' actual security any less, although it will "look" less because of the smaller nominal amount of stock outstanding representing the real or imaginary equity in the property.

The modern era of regulation began in 1907 when the public utilities laws of New York and Wisconsin were enacted. The special census report on street and electric railways for that year showed a total of \$2,097,708,856 capital stock and \$1,677,063,240 funded debt. Ten years later the capital stock had increased 17.9 per cent, while the funded debt had increased 81.9 per cent. Indeed, the increase in common stock was only 13.2 per cent, as compared with a 43.9 per cent increase in preferred stock. In 1907 the funded debt of the electric railways

of the country was \$420,645,616 less than the capital stock; in 1917 it was \$577,332,621 more than the capital stock.

The defect in a scheme of public regulation that does nothing about the securities already issued while attempting to control future issues was clearly brought out by Mr. W. E. Creed, Counsel for the San Francisco-Oakland Terminal Railways Company, at pages 891 and 892 of the Proceedings, where he says:

"Now there is just one other thing. You were speaking about the California Commission, and I think this thing is true all over the country. We have had an inconsistent situation in public regulation due to the fact that the commissions came into existence very largely after 1907 and they found utilities, street railroads and others, had been issuing securities on one theory, you see, and the commissions came in and took control of the issuance of securities and they fixed rates with reference to companies which had securities issued in large part on a different theory from theirs, on the theory on which the commissions themselves issued securities, and I have always thought the only thing to do was to treat rate-fixing as a financial question purely and simply and as an action by public authorities to maintain credit and service and that if they were unwilling to support the securities which were already out, in other words if they were unwilling to permit the credit of the company to go on, the commissions might just as well frankly force reorganizations in those securities and cut down the securities to where they could handle the thing as a whole. Now, we have had that inconsistency in regulation which I think has been a very bad thing. I found it in several other classes of utilities where we have had securities issued and put out in good faith and our credit depended upon the maintenance of revenue to support those securities. Now, if you fix rates upon an entirely different theory and do not kick out those securities, you have an entirely different situation.

"The Chairman: The California Commission has sought to regulate the rates so as to bring a fair return on the value of the property?"

"Mr. Creed: Yes.

"The Chairman: And has proceeded to value the property in very many cases?"

"Mr. Creed: Yes.

"The Chairman: Do you think that to be a proper basis?"

"Mr. Creed: Yes, I approve of that, but I think it is merely producing a slow death to go on without removing that inconsistency.

"Commissioner Meeker: Do you think the same authority should regulate the issuance of securities that regulate rates?"

"Mr. Creed: Yes, sir.

"Commissioner Meeker: Will you explain why?"

"Mr. Creed: Well, because the credit of the company depends upon what it earns and its management, and it requires its earnings to pay its operating expenses, take care of its depreciation and pay the obligations on its securities, and I think there is an absolute close connection between the securities out and the revenue. And I would go even further than that. I would give the state regulating authorities the power to control financial structures of companies and control reorganizations. If you are going to have regulation you might as well have it one hundred per cent, because those three things are so intimately connected that you have a constant struggle unless you have cooperation in the issuance of the securities, approval of the securities already out and regulation of the revenue in harmony with those securities."

It is apparent that public service commission control has failed at least to preserve and protect the credit of the electric railways, and it is by no means clear that in certain respects commission control may not have impaired their credit. The public has required the companies to pursue a sounder and more conservative policy with respect to the issuance of new securities, but has left them in most cases to stagger along under the capital burdens that were already tied on their backs before the establishment of the state commissions. State regulation of street railway securities has been incomplete and imperfect. Both theoretically and practically it has taken away the new investor's chance to win, but has left him with his chance to lose. Under these circumstances, if he "breaks even," he is fortunate. This is hardly the way to "attract" new capital. At the same time the old investors who went into the enterprise as a speculative

venture have fared theoretically much better at the hands of the commissions, some of which are inclined to let reproduction cost new throw its protecting mantle over the inflated securities of the past and even to let superseded property, early losses and conceived intangibles swell "fair present value" to a point where all the risks of the early days will be cashed in by those who now hold the securities. The past investor, who took his chance and lost, is now clamoring at the doors of the state commissions to get his money back. In the unrecognized conflict between the old investor and the new, many commissions are apt to side with the old, since he is there to press his claim. In doing so, however, they are not helping the credit of the industry.

CHAPTER XIX

SHARE OF COMPANIES AND PUBLIC IN RESPONSIBILITY FOR LOSS OF CREDIT

Many causes for the failure of the credit of the electric railways have been elaborated in the preceding chapters of this report. The causes thus far discussed had their origin either in the unsound financial policies of the street railways themselves or in the restrictive policies adopted by the public with respect to them. For the effects of these policies the companies and the public must share responsibility. The public is not in a position to be too severe with the companies so long as it maintains an attitude of unwillingness, unreadiness and incapacity itself to initiate or carry through the measures required for the performance of a public function so necessary as urban transportation. While state and municipality stand around and say "Let George do it," they are not called upon to abuse George for doing it according to his own lights, and moreover they will have to tip George well if they expect him to be amenable to reason, that is, to *their* reason. From the point of view of the electric railway companies, the commissions have in large measure failed. The fact of their failure is alleged and the reasons therefor outlined by Mr. Richard Schaddelee, a witness for the Electric Railway Association. As to what the people expected in establishing the commissions and as to the responsibility of the commissions themselves for their failure, Mr. Schaddelee says at page 861 of the Proceedings :

"Regulation of utilities was necessary, the people felt, not only for their own protection but also for the protection of the utilities.

"The people were convinced that such regulation must be done by men possessing the experience, education, judicial temperament, integrity of character and absolute fearlessness necessary to intelligently and justly exercise such regulatory power.

"Therefore, the people established these state commissions with practically unlimited power and authority over the utilities.

"I am sure that your committee is now convinced that these commissions as a whole have wholly failed to live up to expectations and the intent of the people in establishing said commissions.

"Inasmuch as the commissions were given unlimited authority, they must now assume full responsibility for their failure.

"No man accepting authority can escape or deny responsibility. The one implies the other."

After indicating that he would review in detail the reasons for the failure of the commissions to attain the objects for which they were established, he continues on page 861 :

"Before doing so, allow me to emphasize that throughout my entire paper I have in mind those companies that are well operated, economically managed and honestly financed. It is not my intent to hold the commissions responsible for utility companies' ills that are due to inefficient management or reckless financing.

"The results of these must be borne by the companies themselves, and it is the duty of the commissions to see that the people are not made to suffer from them. If there are any such companies, I am sure they are very few in number and need not be considered here."

From the last sentence of the above quotation, one would infer that however up-to-date Mr. Schaddelee may be, he is not very well versed in street railway history. However, he states a rule that should be of value in assessing the blame for existing troubles. This is of great importance because any solution of the general street railway problem must be based on equity if it is to lay a secure foundation for the full development of local transportation as a public function in the future. The most difficult immediate aspect of the problem is the determination of the amount of the private investment in any particular street railway property which should be taken as a base for determining the allowed return upon capital while private ownership continues, and which should be taken as the purchase price in the event of the acquisition of the property for public ownership and operation. It is necessary, therefore, to assess the blame for past policies and results in order that present and future responsibility may be distributed in the extremely practical form of a financial settlement. This problem is rendered much more difficult by the changes that have taken place in economic conditions for which neither the companies nor the governmental agencies representing the public can be held responsible. The next step in our discussion will be an analysis of these changes.

CHAPTER XX

EFFECT OF AUTOMOBILE AND JITNEY COMPETITION UPON CREDIT

Obviously, the ultimate basis of credit is earning power. Even the existence of physical property which could not be reproduced for the amount of the invested capital is of little importance in establishing or preserving credit unless it is accompanied by earning power. The electric railway industry needs faith, hope and earning power, but the greatest of these is earning power. Street railway earning power is a composite result of volume of traffic, rates of fare and cost of service. Anything that restricts traffic, reduces rates or increases cost, in itself tends to destroy earning power. Street railways were in many communities constructed on a competitive basis, but the conditions under which they operate led almost universally to the theoretical and practical recognition that monopoly is an essential characteristic of this service. Just as the public had generally come to acquiesce in this fundamental fact, a new factor came into existence that tended to reestablish in practice the competition that in theory had been given up by general agreement. The advent of the automobile and the jitney bus is shown by the experience of the electric railways of the country during the past ten years to have been a momentous event from the point of view of the agency already in the field rendering local transportation service. It was shown by the testimony before the Commission that today there are 60 passenger automobiles in the country for every street car. This multiplication of motor vehicles engaged in the transportation of people to and from their work and to and from their pleasures is a fact of great importance to the street railways. The operation of jitney buses as common carriers is much more restricted than the operation of private automobiles, but the jitneys have a definite and intense effect upon the street railway situation in particular communities, for the reason that they engage in direct and in some respects fatal competition with the street cars as public carriers. The experience of numerous communities, even before the extraordinary conditions growing out of the war, made it clear that unrestricted jitney operation, though more or less temporary and precarious in character, means destruction to the street railway from the financial point of view. It seems to be the general opinion of those who have given the subject study that the two agencies of local transportation cannot exist side by side as free competitors for urban traffic without destroying each other.

The effect of automobile competition has been felt from California to Massachusetts. In a telegram from Los Angeles, dated July 29, 1919, Mr. Paul Shoup, President of the Pacific Electric Railway Company, which operates an interurban system with a trackage of more than 1000 miles in Southern Cali-

ifornia, refers to "the desperate situation of electric lines in California." He says that "the jitneys and motor trucks competing with electric lines are not only not taxed for maintenance of highways but are permitted to operate over the very pavements which electric lines are required to build and maintain for all space occupied by tracks and two feet outside thereof." He says that "in addition the state income tax on electric lines is in part used to maintain a system of good roads generally so freely used by motor trucks and jitney competitors." Mr. Shoup's telegram is found at pages 608 and 609 of the Proceedings.

Los Angeles was one of the earliest cities in which the jitney phenomenon manifested itself. While the jitneys within the city limits were pretty well regulated out of existence by an ordinance initiated on behalf of the street railway interests, Mr. Chas. L. Henry, of Indianapolis, known as "the father of the interurban railway," reported to the Commission at page 714 of the Proceedings that "the Pacific Electric Company is losing \$1,400 a day, \$500,000 a year, from jitney buses doing country business. Now, you may call them interurban jitneys if you want to. They are absolutely uncontrolled."

Interstate Commerce Commissioner Eastman, in pointing out what kind of a report he would want to make if he had the task of the Federal Electric Railways Commission to do, at page 2066 of the Proceedings, said:

"I should want to point out, further, to the public very clearly the inroads which have been made by automobile competition. There is no doubt whatever that that has been a very important factor in decreasing the revenue of street railway companies all over the country, and particularly in the country districts, although it has also operated in the cities. No one can see the number of automobiles which operate here in the city of Washington, for instance, without realizing the effect which that must have upon street railway revenues."

In connection with Mr. Eastman's testimony, Mr. Warren made the following statement as to the effects of jitney competition in Springfield, Massachusetts, at page 2066 of the Proceedings:

"We had an estimate in Springfield as to how much the jitneys have taken from the Springfield Street Railway, assuming that the jitney passengers would ride in the cars if they did not ride in the jitneys. The estimates vary from \$200,000 to \$300,000 a year, because of the varying number of the jitneys. When the weather is bad they do not run, and when the weather is good they do run; so that it is a little difficult to estimate; but from \$500 to \$1,000 a day is the estimate of the street railway officials."

The Special Street Railway Investigation Commission of the Massachusetts Legislature, which reported on February 1, 1918, discussed "the growth of the automobile business" at pages 24 to 26 of its report,¹ where it says:

"This subject should be treated under two heads:

"(1) The privately owned automobile which carries passengers, not for hire, some of whom would otherwise ride on the street cars.

"(2) The so-called jitney; which enters into direct competition with the street railways.

"(1) *Privately owned Autos.*—The advent of the automobile has been one of those circumstances which no human mind could foresee. In this connection the following figures are of interest:

"In 1910, 31,360 automobiles were registered in this State, including commercial trucks and vehicles, but excluding dealers' cars.

In 1912 the number was 50,132.

In 1915 the number was 102,633.

In 1916 the number was 136,809.

In 1917 the number was 174,274.

"Of this last number, 147,310 were mainly passenger cars, i.e., with trucks and commercial vehicles excluded. Assuming that each of these cars takes away from the revenue of the street railways one round-trip ride per day, paying a 5-cent fare each way, the loss

in street car revenue in a year in this State would be about \$5,000,000, or nearly \$15,000 per day. It is estimated that a private auto would represent two fares per day, which would otherwise be paid on the cars. Any one watching the stream of cars morning and night through the streets of Boston which lead to the business center will probably agree that such cars must represent a material loss of revenue to the Boston Elevated. The question of just how many dollars are thus diverted from the treasury of the company is a matter impossible to estimate exactly. The above estimate of \$5,000,000 per year appears reasonable. In addition to the private autos there are about 10,000 motorcycles licensed in this State, which also means a loss in revenue to the street railways. The large number of automobiles also causes a material delay to traffic at important street intersections.

"(2) *Jitneys*.—The jitney represents a different phase of the automobile situation. In the jitney the street railway has a direct competitor for fares. The jitney operates in the same general territory as the street railway, picking off the cream of the traffic (such as the short-haul business), operating in many cases only under favorable weather conditions, and often without a bond sufficient to protect either the pedestrian or the passengers in the case of accidents. The jitneys often pay licenses locally, but in many cases not proportionate to their privileges. In this State the jitneys have not been declared common carriers, and are therefore not subject to the regulation of the Public Service Commission. Certain cities and towns have bonded the jitneys so that the public is reasonably protected. As a general rule, however, it is not believed that these jitneys are so bonded.

"The street railway companies are thus subjected to a more or less unfair competition, by which the jitneys can operate in general how, when and where they please, without having any particular responsibility in return for their rights to engage in the transportation business. The street railways, however, must maintain their service, under all conditions of weather, in a manner satisfactory to the general public, and under the supervision and regulation of the Public Service Commission. Recently jitney competition has been so severe that the Nahant & Lynn has threatened to cease operations unless the city will revise the conditions under which jitneys are allowed to operate."

Mr. Luther S. Storrs, President of the Connecticut Company, at page 423 of the Proceedings, says:

"The rapid development of the automobile business has had a tremendous effect upon the earnings of electric railroads throughout the country; that, attendant with the very great development of the perfected highway and the permanent paving of city streets."

Mr. Storrs then points out, at page 424, that in the fifteen years from 1903 to 1918 the number of motor vehicles registered in Massachusetts grew from 3,241 to 193,497, and adds:

"During that period the history of the electric railroads in Massachusetts is one of rapidly approaching insolvency. Two hundred and fifteen miles of electric railroad tracks within that state have been abandoned."

Further on, at pages 425 and 426, he describes some of the specific effects of cheap automobiles and jitneys upon the electric railway business. On this point, he says:

"In parts of the Commonwealth of Massachusetts, and doubtless it is true in other parts of the United States, electric lines were built through strictly summer resort territory, such as the Berkshire Hills, which has been a very popular summer trip. Some years ago the tourists came in and spent a week or a month in some favorite inn with an occasional trolley trip through the hills. Now the tourist comes in in his automobile, and depending upon his standing, a very elaborate one or a very simple one, stays a day or two and passes on to some other part of the country. That has had a most disastrous effect upon the revenue of the electric lines in the territory, necessitating a very material decrease in the service rendered, that decrease now running as high as two-thirds; that is, one-third only of the service which was originally rendered on those lines which are still in operation as given. Some lines were abandoned, some of them entirely junked, the tracks torn up and the wires torn down, and on other lines the service discontinued entirely, and on other lines a measure of local relief or aid given to the corporation for continued service of one or two cars to serve the little villages and the small communities around.

"With the cheap automobile and the even cheaper second-hand car there has sprung up a measure of competition with the electric railroad which, when not recognized as competition, has been very serious upon the revenues of the transportation utility; that is, the jitney. And there is the development of the small second-hand and jitney bus automobile carrying 20 passengers. In those communities where the essential need of transportation has been thoroughly recognized and the responsibility of the transportation utility to the community

expressed in forms of statute, that is, the requiring of the jitney bus a regularity of service during all periods of the day, a certainty of service over particular routes, a responsibility in case of accident hazard and also a measure of tax to compensate for the pavement and other facilities offered by the city, that has placed that competitor upon what might be considered a legitimate basis. In other communities, however, as yet there has been no regulation which has been effective from the standpoint of the community in giving essential means of service, and in those parts of the country the jitney operates in casual service over certain routes or as far as the individual may have passengers, turning back into the center and picking up another load, and if by any chance a number of people are waiting to go into other portions of the city, going on other routes. They are irresponsible, the title to the car remaining frequently in the hands of the manufacturer or in the name of the wife of the driver; and the only property which can be attached from the standpoint of those who might be injured by accident being that of the deteriorated automobile, of little or no value."

After referring to the great increase in the number of jitneys operating in New Jersey "directly attendant upon an effort of the electric railway utility to obtain increases in revenue through changes in its rates of fare," he discusses the result of a careful analysis of transportation service in the city of Bridgeport, which he describes as being more largely overrun with jitneys than any other city in Connecticut.² The detailed figures for Bridgeport are given at page 428 of the Proceedings, as follows:

"COMPARISON OF NUMBER OF PASSENGERS CARRIED BY
STREET RAILWAY AND JITNEYS; CLASSIFIED
BY LENGTH OF RIDE

<i>In Both Directions</i>	<i>On the Railway</i>	<i>On the Jitney</i>	<i>Total</i>	<i>Per Cent Taking Jitney</i>
Riding within $1\frac{1}{4}$ miles radius of center of city.....	5,432,947	5,561,451	10,994,398	50.58
Riding more than $1\frac{1}{4}$ miles but less than 2 miles from center of city.....	4,805,761	10,620,347	15,426,108	68.85
Riding more than 2 miles but less than $2\frac{3}{4}$ miles from center of city.....	3,395,431	2,758,041	6,153,472	44.82
Riding more than $2\frac{3}{4}$ miles but less than $3\frac{1}{2}$ miles from center of city.....	239,724	.....	239,724	....
Riding more than $3\frac{1}{2}$ miles but less than $4\frac{1}{4}$ miles from center of city.....	860,048	.....	860,048	....
Total	14,733,911	18,939,839	33,673,750	56.245"

And still the wonder grew. At page 429, Mr. Storrs tells how the motor truck has produced passenger transportation as a by-product. It appears that in Connecticut a man does not have to be a Yankee to appreciate a good thing in the transportation line when he sees it, after having been accustomed to the Connecticut Company's service, as witnesseth Mr. Storrs:

"The development of the motor truck has also had a serious effect upon the revenues of the electric lines. That is now becoming more and more apparent as we see makeshift seats placed upon the motor trucks or trucks loaded to full carrying capacity in space, if not in tonnage, of those bound out for picnics or to other places of resort.

"A case in point that will be of interest is this: Some time ago in one of the New England cities there sprung up unexpectedly (to the transportation utility) a very large business in shore bathing by the foreign element entirely, Russian Jews, Lithuanians, Italians and Greeks, which required an immediate increase of transportation during the hotter summer days and especially Saturdays and Sundays, of some twenty to thirty extra cars of full carrying capacity, that is a carrying capacity of 75 to 100 passengers, depending upon the number that might stand. That ran over a period of three or four years, and as there was a great deal of difficulty to get the fares from all the mothers of the small foreigners, they would not all of them acknowledge the individual children, the traction utility put in a prepayment enclosure through which they all had to pass and pay their fare going in. That was very effective in getting the electric railroad fares but, unfortunately, the fathers in a

great many cases were vegetable vendors or ice vendors or something of that kind, and they all of them use their motor trucks which are normally used for their business, by putting in extra seats and taking down all these hordes of people to the shore with the result that today there is no demand whatever for transportation by the utility."

Mr. Homer Loring, Chairman of the Board of Public Trustees for the operation of the Eastern Massachusetts Street Railway Company, was emphatic in his judgment that the only thing to do with the jitney, from the street railway point of view, is to put it out of business. His testimony is replete with interest. Beginning at page 1644 of the Proceedings, Mr. Loring outlines the policy of the Board of Trustees, as follows:

"The broad powers we have had have enabled us to combat the jitney situation and, to my mind, that is our greatest problem today. The jitneys are our greatest problem.

"We have made a count in all of our cities every month to determine the number of jitneys and the passengers they are actually carrying, and the number of jitneys, from our May count to our August count, more than doubled; and the amount of money which they are taking away from us increased during that 90 days from \$18,000 to \$41,000 a week, or more than \$2,000,000 a year.

"Commissioner Gadsden: It naturally would increase in summer, would it not, and decrease in winter, Mr. Loring?

"Mr. Loring: I do not know, Mr. Gadsden. The jitneys that we are encountering, although in some cities it is the Ford automobile, in others it is buses seating 40 people, enclosed buses, which certainly have been built with the idea that they can operate 365 days in the year.

"The Chairman: Have your higher fares stimulated that jitney development?

"Mr. Loring: There is no question that the higher fare has stimulated it. At the same time, we have an interesting case over in Massachusetts, at New Bedford. New Bedford, undoubtedly, has given for years the best service of any city in the State, and it has been in a class by itself, and it is still running on a 5-cent fare, although they are about to try to get a higher one.

"Up to the time that they compelled jitneys, about May 1st, to provide a surety company bond, they had more jitneys in New Bedford with the 5-cent fare and with better service than any other city, than in any other city in the State; they had 250 of them there. I use that frequently when some one comes in and says: 'If you will reduce your fares the jitneys will drop out.' We had jitneys with the 5-cent fare. To be sure we did not have as many as we have today; but the men returning from the war have been quite an influence in their increase. Then, of course, the automobile people are exploiting the jitney business to an extent that I did not realize until a few days ago. The department stores are exploiting them. One department store in Salem has loaned \$29,000 to people to buy jitneys and bring the people in to that particular store. The jitney question is a very large one.

"The Chairman: In that case of that department store, Mr. Loring, were the department store's advertisements on the side of the jitney?

"Mr. Loring: No; but they ran to and parked in front of that store. They saw that that was the center.

"We had an interesting case the other day. We notified the City of Quincy that on what is called Howe's Neck Road, about four miles long, we would abandon the road and discontinue service on the 1st of October unless they restricted jitneys. They said that they would not do it. Finally, however, they put it to a popular vote of every property owner, and the vote was 700 to 17 in favor of the street railway. That was the first real encouragement we have had over in our territory.

"We take the position that the two cannot live in the same community, in the same city. I do not think any half-way measure is going to help. Jitneys and the street railway cannot live. It is wholly unfair and unreasonable competition.

"Commissioner Gadsden: Did you say that that vote was by property owners' vote or citizens'?

"Mr. Loring: Property owners.

* * * * *

"The Chairman: How was the question framed?

"Mr. Loring: They were simply asked to choose, and to cross out one or the other line. One was: 'Do you prefer street railway service,' and the other was: 'Do you prefer jitney service.' Then it said at the bottom: 'The street railway will not operate if the jitneys operate. You must choose one or the other.' It was a perfectly fair test, however, and to my mind was a very very important one. It has so encouraged the Mayor of Quincy that I feel that there is a fair chance of getting jitneys out of the entire city.

* * * * *

"Of course, we have a great many cities that are interested in their jitney service and

say that it ought to be continued. The competition is so unreasonable, however, that it cannot continue.

"For instance, we showed the City of Lynn the other day that we paid in taxes \$30,000, and we ran about 40 regular cars; that is \$750 per car, figured in that way. The jitney bus seats 20 or 30 and it pays an average of about \$25. Now, of course, that is competition that the street railway cannot meet; and so far as I can see the only position that we are going to take is that they cannot exist in the same city, and the people ultimately must choose between them, because the way they increase where they are not severely restricted is astonishing.

"So far as the restrictions are concerned, nothing amounts to anything except a rigid bond. We have jitneys running in cities where, apparently, the regulations are stringent, but they do not have to provide a surety bond and they can get some near relative, or the City Treasurer is not very careful about it, and it does not deter them at all. They do not make money generally. They tell us that they do not make money. There is a constant changing of ownership. However, it is pretty attractive. A man says, 'If I run a jitney I can be my own boss, and go home to lunch when I want to' and they would rather work for less compensation, I think, under those conditions. I know they would work under those conditions for far less than they would work for us to run a car.

"Mr. Warren: Does what you are saying apply to the jitney bus? When you say 'jitney' do you mean these 20 or 30 seaters?"

"Mr. Loring: Yes; I mean anything from the Ford to those that we have that seat thirty.

"Commissioner Gadsden: Did your investigation lead you to think that these buses are an economical success? Can they operate successfully commercially in your judgment?"

"Mr. Loring: Mr. Gadsden, there is a grave question about it. The Ford jitney makes high speed. Some of the mills told me that their help said that they could take the Fords and load up with four or five of the help and run to the other side of the city with no stops and they could get their lunch and return that way. Now, it was pretty hard to give any good argument as to why they should not do that. We cannot do it with our street railway, because the more people you carry the more stops you have to make and the slower your running time. That is exactly what happens as the jitney buses increase in size. The time slows down a great deal, particularly in the city.

"So I gravely doubt whether they have a broad economic use in our cities.

"I think it is going to be a serious matter in the future, anyway, Mr. Gadsden, handling the public in our cities. Our streets are fixed in width, the traffic in them has increased enormously in the last few years, and it stands to increase greatly in the next few years, and I do not believe that there is any way found yet to transport people—I am talking about city traffic—as well as street cars holding a good many people and occupying a certain place in the street. I doubt it very much. However, of course, it remains to be seen."

Mr. Roger W. Babson, President of Babson's Statistical Organization, and a director in the Eastern Massachusetts Street Railway Company, expressed the opinion that in attacking the electric railway problem there are "three general methods of pursuit": first, private ownership and public regulation, which has already broken down; second, municipal ownership and service-at-cost plans, which are good from the investor's standpoint, but are likely to cause a "back fire" some day; and, based upon the recognition that the automobile is what is the matter with the street railway, another method which he describes and advocates at pages 1054 and 1055 of the Proceedings, as follows:

"The third method would be for the communities to relieve the street railways of their taxations and various other burdens and permit them to charge what fares they wish to charge, but to protect the public by permitting a proper competition in the line of judicious jitney systems.

"I feel very strongly that in the end the street railways and the public would be better off by opening the throttle and letting the street railways and the automobiles fight the thing out on a service basis, and each class charge what they need to do the business. In some communities the street railway would go out of business, and we would have a bus service instead. In other communities the buses would go out of service, and we would have a street railway service instead. But in all the communities we would have decent service, which we are not having at the present time.

"I think the street railway difficulties began in Massachusetts, for instance, when the state came in and practically fathered the roads. The state approved the issues of securities, and protected the roads against competition, and the roads became lazy and indifferent, the service fell down, and that was the beginning of the trouble.

"If the roads had been obliged to fight for their existence from the first, had been free

to charge what fares they wanted to charge, and had been dependent on service for holding their business, I do not think we would have the trouble so acute as we have it at the present time.

* * * * *

"The real difficulty with the street railway situation came with the automobile. It is not the labor problem, as I see it. It is not the high cost of materials. Those are factors. But labor has always gradually increased in price, the materials have gradually increased in price. It was Henry Ford who hit the street railway system a blow between the eyes. If he had only been bright enough to sell street railway securities short when he built his plant, he would have been making double the money that he is making now.

"Take Massachusetts, for instance: There are less than 5000 street cars in Massachusetts, and there are 186,000 automobiles. There are 186,000 automobiles and less than 5,000 street cars. There is the fundamental difficulty, as I see it, with the street railway situation.

"Now we are in it, the question is, how are we going to get out of it. We cannot get out of it, certainly, by having our hands tied.

"There are only two ways: Either to sell out to the communities, through municipal ownership or service-at-cost plan, or else have a free reign to win out on the basis of service.

"There are some communities where the street railway companies cannot win out on the basis of service, but there are other communities where I feel very strongly that the street railways could win out if they were free to charge what the traffic would bear and were freed from restrictions on such questions as paving, which is simply an inheritance from the old street horse-car days; the reason we have to pay for the paving between the tracks is that we used to have horses that wore out the dirt between the tracks. And I further believe that in Boston, for instance, where we have the 10-cent fare today, if the city and the state were not holding the umbrella over the Boston Elevated Company, and the Boston Elevated Company was free to charge any fare that it wanted to, but had to stand on its own basis, the people of Boston would get better service, and lower fares than they have got today."

Mr. Babson made it perfectly clear that his reason for advocating the removal of restrictions from the electric railways is that they are no longer monopolies. At page 1056, he says:

"A monopoly should be regulated. I feel that very strongly. I think that before the auto came the commission did right in regulating these street railways and controlling them; but now that the auto has come into the field, it seems to me that a monopoly no longer exists and there is no reason why the states and cities should shackle these roads, until they again become a monopoly."

At pages 1056 and 1057 of the Proceedings, Mr. Babson discusses more fully the subject of street railway monopoly and the absence of it. Upon this point his testimony follows:

"The Chairman: There is a monopoly, in your judgment, where a street car company has not the jitney competition?"

"Mr. Babson: Yes.

"The Chairman: But the fact that there are hundreds of thousands of automobiles, privately owned, carrying persons to and from business and otherwise, but not charging for it, is competition, of course?"

"Mr. Babson: Yes; and that has been what has put the street railways on the blink—the automobile.

"The Chairman: You do not expect to eliminate competition between that form of conveyance and the street car company, do you?"

"Mr. Babson: No; and that has removed the great cause of public regulation. That has opened the door. When I was a boy, or even fifteen years ago, it was either a question of taking a street car or a slower conveyance; the street car people had the service. That is the real thing that counts in this world—service. The street car people had a monopoly, not of the streets, but they had a monopoly of service. They could get you there quicker than any other form of conveyance. That is where their monopoly lay—not in the fact that they had the streets, but in the fact that they had the quickest service. Now that monopoly has gone."

Mr. Babson's views upon the failure of private ownership and public regulation are found at page 1061 of the Proceedings, where he answers Chairman Elmquist's questions as follows:

"The Chairman: Why do you say private ownership and regulation has broken down?"

"Mr. Babson: Because the roads, so many of them, are in bankruptcy."

"The Chairman: Is that the result of private ownership and regulation, or is it the result of the war, with its attendant high prices, high cost?"

"Mr. Babson: That is the result of the automobile."

"The Chairman: The result of the automobile?"

"Mr. Babson: The result of the automobile absolutely. It is the automobile that puts the street railways where they are. We have less than 5,000 street cars in Massachusetts, and we have 186,000 automobiles. There is the answer to the question."

"The Chairman: Do you feel that if the war had not come, your street car industry in Boston would still be a broken down institution?"

"Mr. Babson: Yes, I do."

"The Chairman: What was the condition before the war started?"

"Mr. Babson: It was losing money."

The Railroad Commission of California, in the San Diego fare case decided November 14, 1919,³ recognizes the changed status of the electric railway as a result of automobile competition.

"The kind of transportation furnished by street railway companies is no longer a monopoly," says Commissioner Devlin in the opinion in that case. "The development of the automobile has brought about a condition where the motor vehicle will automatically take the place of the street railway if this kind of transportation can be rendered more economically by automobile than it can by street car. This is especially true in California. I am not convinced, however, that the time has arrived when our largest cities can dispense with their street car systems. I am also satisfied that the electrically operated street car will have the better of it when compared with the motor vehicle in regard to actual costs, and when all items of cost are taken into consideration as they should be and if unfair and unequal burdens are not placed on the street railways. This is especially apparent when modern street railway equipment is taken into the comparison."

This is especially true in California, and we may add, in Massachusetts and the intervening states.

The evidence against the automobile as a wrecker of street railway credit appears to be overwhelming. Mr. William C. Bliss, Chairman of the Public Service Commission of Rhode Island, after mentioning "the increased cost of labor and material" and "the excessive franchise taxes and paving obligations" as two of the "fundamental causes of the emergency situation that exists," goes on to say at pages 1186 to 1188 of the Proceedings:

"The third cause is the competition of the privately owned automobile. The privately owned automobile has come to stay, we cannot interfere with that. That is going to remain, and the only way we can do is to have hard times and force people to dispose of their automobiles and ride in the cars. We do not want that as a remedy of the situation. But the tremendous increase in the number of privately owned automobiles, the influence is just as strong in Rhode Island as it is everywhere else. Every improvement of state highways tends to increase the number of these automobiles and the use of the roads."

"The estimates of the effect of jitney competition as shown by actual ridings taken by the commission appear in the report, and if I may take that, I will refer you to the page so you will have it in your record. It appears upon page 31 of the report of the commission,⁴ where we have indicated that, according to the ridings that were at that time shown, the loss in gross revenue to the Rhode Island Company was probably not less than \$300,000 a year. With the application of each increase in fares the jitney competition becomes all the more severe. The regulation as it exists in Rhode Island is left to each of the localities. In the City of Providence and the City of Pawtucket where the jitneys are in principal use the requirement is a \$25 annual license fee, a \$500 bond for each passenger, up to the capacity that is fixed for the car; five passengers is the common amount, and a \$2,500 bond and \$25 license fee, and of course the ordinary registration motor vehicle fee to the State."

"The jitneys are under no other regulation. They are not required to operate over particular routes; they are not required to operate upon particular schedules. I believe that the jitney furnishes to many people a superior service to that of the trolleys, and I believe for that reason that it will be impossible to abolish the jitneys. I believe they should be placed under the strictest regulation. I think they should be required either to be placed under the supervision of the city authorities or under the supervision of the commission and required to run upon regular routes and with regular schedules and they should be required to furnish statistical data if required."

"Commissioner Meeker: You spoke of putting them under the strictest regulations."

You mean, do you not, the same regulations that apply to the street railway companies practically; you would not make the regulations more severe for the jitneys?

"Mr. Bliss: No, but I mean for instance the safety features, if you could see some of the jitneys that operate, which are regularly licensed, and some of the drivers, you would think they ought to be directed to the Board of Health for fumigation, and some of the machines sent to the car shop for repairs.

"Commissioner Meeker: And you think that the jitney would still survive as a severe competitor to the street railways if it were subject to severe regulations, practically the same regulations as street railroads?

"Mr. Bliss: I think it would operate to hurt the street railways, but I think they would be very greatly reduced in number. In the city of Providence our great difficulty is our narrow streets and corners which make the operation of these large cars difficult. The congestion of the streets with jitneys and with the other automobiles tends to very greatly delay the movement of the cars through the center of the city. That is one reason why the recommendation of the commission's engineers of rerouting these lines outside the center of the city—which would immediately be objected to by the Department stores, who want every car to go by their doors—such a rerouting would operate to tremendously increase the speed of the cars, and we estimated that an average increased speed of 10% would mean under the operations of 1917, \$150,000. The jitneys operate to delay the movement of cars. They crowd in in front of cars and delay the movement of loading the passengers, and the jitneys which are unregulated, pull right in between the white posts and the car and the passengers, and all of that delays the movement of the cars, and I think that the public generally would welcome proper regulation of the jitneys, but they would oppose the absolute suppression of the jitney, because the jitney does render a superior service to the car. It gets you there quicker. We have a large number operating between Providence and Pawtucket on a 15-cent rate compared with the trolley car rate of 10 cents, and they do a tremendous and profitable business, and they are well conducted and proper cars and run on a business-like basis, and I think the public are willing to pay for that service, even though it costs half as much again as the trolley does. But to leave the jitneys unregulated and permit them to come in direct competition with the cars is a very serious cause of the present situation."

Mr. Carl H. Mote, at that time Secretary of the Public Service Commission of Indiana, explained the policy of that commission with respect to the protection of old investments based on hopes that have been disappointed, and referred to the automobile as one of the important factors in causing the disappointment. At pages 1088 and 1089 of the Proceedings, he says:

"Indiana by no means has escaped the effects of speculation in the pioneer days of electric railway building and financing, else the reorganizations already consummated and now in process and to be accomplished, would not have been and would not be necessary. I believe it is the theory of our commission that we are not called upon to protect the return on securities that represent no value and that were issued in pioneer days in anticipation of future earning power that has not been realized.

"The truth is that the electric interurban railways have been a huge disappointment to the hopes and judgment of their promoters. The advent of the automobile was not foreseen, and I do not think we have reached the peak of its effect on interurban traffic, either passenger or freight. The building of hard surface roads is bound to bring the motor-driven truck into more active competition with the electric railway for the transportation of short-haul freight, and the trouble with the jitney bus is already well recognized. I look upon their future as anything but promising."

Mr. Gaylord C. Cunmin, who, during his career, has been at different times city engineer of Dayton, Ohio, city manager of Jackson, Michigan, and city manager of Grand Rapids, Michigan, appeared before the Commission as a representative of the Institute for Public Service. At page 31 of the Proceedings he classifies street railways into two groups: one group "where it is possible for them to stand on their own feet, by means of increased fares and decreased expense of various kinds, decreased taxes, perhaps, and so on;" and another group "where the earning capacity is not there," where "the rate of fare that is fixed makes absolutely no difference," where the companies could not get a sufficient revenue at any rate of fare that might be charged. Further on, Commissioner Gadsden asks him what is to be done with this second class of utilities.

He replies that the choice lies between a partnership scheme with a public subsidy, and public ownership. The witness then states that the automobile is what ails this second group of street railway properties and that the automobile has come to stay. The following colloquy is found at page 37 of the Proceedings:

"Commissioner Gadsden: The public has to absorb the loss?"

"Mr. Cummin: The public has to absorb the loss. They are necessary facilities. Unfortunately, they have nothing to look forward to, because the loss that they have suffered now is a loss due to the automobile, very largely, and the use of the automobile is going to increase, and not decrease, and the probable passengers per unit of population served will probably tend to decrease and not increase.

* * * * *

"Commissioner Gadsden: I want to bring out your idea of what is going to be that essential service that could not pay its way.

"Mr. Cummin: The effect of the automobile now can be shown by comparing the figures on gasless Sundays, and the Sundays that were not gasless. On a number of lines I found that the gasless Sundays added from 20 to 40 per cent to the gross revenue, and they seemed to average some place around 33 1/3 per cent. Now, if the street railroads had 33 1/3 per cent more gross revenue than they have now, it would go a long way toward helping the solution of the difficulty, even under present prices."

The discussion was carried further at page 54 of the Proceedings, where Commissioner Sweet asks the questions. Here Mr. Cummin testifies as follows:

"Commissioner Sweet: You said that the automobile was having a very material effect in diminishing the travel upon street railways, and consequently diminishing their earning capacity. Can you see any remedy for that from the street railway standpoint?"

"Mr. Cummin: No, I do not know that I can. I think the use of the automobile is going to increase rather than decrease, and the only thing I can see is for the street railroads to try to work out some scheme to make riding on street railroads more attractive than riding in Fords. If they can do that, they can perhaps make inroads on these deficits. But there is the situation: A man owns a car, and he goes back and forth to work in it, and he used to ride in a street car; and he will probably seat two or three of his friends, or at least one friend, probably an average of three or four a week; he will take them out with him as he passes them on the street. Those are all potential street railroad fares, that would be street railroad fares if it were not for that automobile; and you multiply that by thousands and thousands of cases, and you make a very decided inroad on the earnings of the street railway.

"Commissioner Sweet: Of the two kinds of street railroads you spoke of, those that are almost hopeless, or practically so, and those that are not, which would be the more affected by the automobile competition?"

"Mr. Cummin: I do not see that it would make any particular difference.

"Commissioner Sweet: Don't you think that these street railroads that I think you, or perhaps Judge Taft said never ought to have been built, that there was no logical reason for building, out into the suburbs, would be more affected, in proportion, than those in the center of the city?"

"Mr. Cummin: Oh, yes. Take a line that is built into a high class residential district, and it might be pretty nearly put out of business by the automobile traffic. You take lines in the City of New York, and they might be very little affected. I mean, the percentage is probably very much less than it would be in a smaller city, but that is taking the extremes, of course. I believe if you take cities the size of Detroit and Cleveland and cities of that general class, you will find that the automobile has cut very, very heavily into the revenues of the street railway companies. It is easy enough to simply go out in the street and count them up—what would be street car fares if it were not for the automobiles.

"Commissioner Sweet: In the cases you have in mind is the jitney playing any part in your estimate?"

"Mr. Cummin: Under certain circumstances and in certain cases the jitney may be a very serious competitor; but taking the question and generalizing upon it, the serious thing is the automobile as a whole—the privately owned automobile and the jitney and every thing all together; that is the thing that the street railroads must face, the competition of the automobile. The jitney competition you can control. The private automobile competition you cannot control.

"Commissioner Sweet: That is likely to grow worse, rather than better?"

"Mr. Cummin: I would judge so, at least by the plans that the automobile manufacturers have."

The effect of jitney competition in Dallas, Texas, upon the revenues of the street railway was shown by the testimony of Mr. W. B. Head, Vice-President

of the Dallas Railway Company. He describes the sliding-scale, service-at-cost franchise under which his company is now operating at a five-cent fare and getting a four per cent return on property value. Then, at pages 634 and 635 of the Proceedings, occurs the following:

"The Chairman: Has it not looked to you as if the city got everything in this contract, and you got nothing?"

"Mr. Head: Well, I quite agree with you, Mr. Commissioner, that they got the best of it.

"The Chairman: Well, what did you get out of it?"

"Mr. Head: If conditions had continued as they were in 1913 and 1914, as to the cost of materials and labor, I think that we would have been earning at this time about eight per cent on the property value, and the people would have been riding at six tickets for a quarter. Now, we did not have to support that, or, rather, some of us did feel that there might come a time when the fare would have to be made above five cents as a straight fare, but at the time the franchises were negotiated, we had the severe jitney competition, that is, the old company management had jitney competition, and one of the agreements of the city was, what you might term a side agreement, that they would pass an ordinance that would relieve the railway company of this jitney competition.

"The Chairman: Has that been done?"

"Mr. Head: Yes, sir; but it took a good long time. It got into the courts, and we have only been relieved of it in the month of May of this year. That was the first month that we have had in which to make a comparison.

"Mr. Warren: What was the result of that comparison, Mr. Head?"

"Mr. Head: It is interesting. The receipts jumped up in May of this year over May of last year about 50 per cent. We never knew how much they were taking.

"Mr. Warren: Fifty per cent?"

"Mr. Head: Yes.

"The Chairman: Of course, you know, Dallas is still growing, and has been growing some since last May.

"Mr. Warren: You think 30 per cent may have been the normal growth?"

"Mr. Head: The June statement shows an increase in June this year over June of last year, with no jitneys last year, of about 10 per cent. The increase in May this year over May last year was 48.3 per cent. May, 1919, as compared with May, 1918, increased 48.3 per cent.

"Mr. Warren: And the next month it increased 10 per cent?"

"Mr. Head: The next month it was 10 per cent.

"Mr. Warren: Because they had been cut off in June a year ago?"

"Mr. Head: Yes; because they had been cut off in June a year ago."

In an earlier chapter of this report I quoted Mr. Henry G. Bradlee's letter of October 1, 1919, in which he shows that street railway traffic is booming on the Stone & Webster lines, and even intimates that perhaps the automobile has done the electric railway a good turn after all by stimulating movement and cultivating the riding habit. What we are chiefly concerned with in this chapter is the effect of automobile competition, marking as it does a change in economic conditions, upon the credit of the electric railways. The evidence is clear and cumulative that the automobile has raised a serious doubt in the public mind as to the permanence of the electric railway as the chief means of local transportation. Doubt is the negation of credit. Yet the issue is of such vast importance that if somebody sees a silver lining on the dark clouds hanging over the future course of the utility, it is comforting and may lead to a revival of drooping spirits. The witnesses are nearly, if not quite unanimous, that the regulation of jitneys so as to do away with their unequal and unfair competition is quite within the bounds of public policy, but that the competition of private automobiles for traffic cannot well be regulated. The question is this, therefore: If jitneys are abolished, or at least subjected to regulation and taxation equivalent to the regulation and taxation that are applied to the electric railways, can the latter survive or perhaps even profit by the competition of the automobile? Put

in another way, is there anything in the remarkable recent development of motor transportation to destroy street railway credit permanently? Mr. Richard Schaddelee, looking out upon the electric railway world of the Middle West from his headquarters in Grand Rapids, Michigan, sees nothing to fear in the automobile, if the jitney can be made to keep its place. His testimony on this point is found at pages 867 and 868 of the Proceedings, where he says:

"You have heard a lot about the jitney competition. Well, we have had jitney competition in past years, too, and the only reason that we had that competition is because the politicians and the public officials allowed those jitneys to compete with us on an uneven and unfair basis. I am not afraid of jitney competition if you put on those jitneys the same burdens you put on us, not a bit. I told one of our council when they had the jitney competition up, I said, 'I will stop the street cars for a month if you say so, and let the jitneys do all the business. Then we will stop the jitneys a month and we will do it all. You can be your own judges as to which is the better mode of transportation.'

"You know what we want is justice and fairness, and jitneys or any other mode of locomotion is a revolutionary mode over our system of transportation. We cannot prevent that going into effect. There is no private enterprise that can oppose or retard to any extent the working of an evolution in transportation. We might just as well lay down, but I do not want to lay down unless the competition is fair.

"Mr. Warren: Is there any regulation of jitneys there?"

"Mr. Schaddelee: Well, the court has regulated them out of business.

"Mr. Warren: The courts have?"

"Mr. Schaddelee: Yes, and that is another thing where the commission failed to do its plain duty under the law. The Illinois law says that nobody engaged in the transportation of persons in Illinois can engage in that unless they first have a certificate of convenience.

"Mr. Warren: From the commission?"

"Mr. Schaddelee: Yes, sir, and that is the duty of the commission to enforce that law. They never made any effort to enforce it. Finally we got them, after long work, and after keeping at it all the time, they finally issued an order telling them to desist. Do you suppose they desisted? Not a bit. They increased. They did not care for it, they were nothing but a lot of outlaws, and as long as they could operate as outlaws they could stay. The minute they were compelled to abide by the law they could not live. Any outlaw can live as long as nobody interferes with him.

"Mr. Warren: What did you do, go to the court and get an order to enforce the commission's order?"

"Mr. Schaddelee: Yes, we got a blanket order, I do not know if any court has ever issued an order of that kind, but we got it, and there are no jitneys now and there won't be any more down there. If they do come we will take care of them.

"The Chairman: Do you not think it was a good thing for the people to be fed on jitneys for a while so as to have the full experience?"

"Mr. Schaddelee: Well, I had no objection to their being fed, but we had objection to the nourishment to feed them being withdrawn from us, that is what we objected to. Those jitneys, you know, in the winter-time when the snow was on the ground—there would be two feet of snow on the ground and the jitneys would not run until we had cleared the snow from the streets and then the jitneys would go right ahead of our street cars and take all our business away from us, and then they say the street car company has a competitor. That is a fine competitor, that is."

That the jitney has pointed the way to a radical improvement in electric railway service through a revolution in operation methods, and has changed the electric railway from a monopoly to a business, was the opinion of Mr. Walter Jackson, a consulting expert on street railway fares and bus operation, who until recently was on the staff of the Electric Railway Journal for many years. Mr. Jackson's testimony does not controvert the view that automobile competition has been a leading factor in the collapse of street railway credit, but it strongly maintains that the electric railways, to great extent, have their future in their own hands. At pages 1590 to 1592 of the Proceedings, Mr. Jackson says:

"Perhaps the larger difficulty of the electric railway industry is not merely the greatly increased cost of operation due to the war, or accelerated by the war, but the necessity of changing its point of view from that of a monopoly, a monopolistic industry, to that of a business.

"When the electric railway was a monopoly it did not have the necessity to progress that is common in any commercial undertaking.

"If, for example, an improvement in apparatus were brought before an electric railway, the failure to adopt that improvement would not be as dire and show up in as bad a light the operator as would be the case where a manufacturer rejected an improvement. The rejection of an improvement by a competing manufacturer spells ruin. Rejection of an improvement by a monopoly does not spell ruin immediately, but spells lower income and poorer service. There is not the same means for checking up whether that monopoly is efficient.

"The electric railway had a double handicap as compared with other public utilities. Monopoly, in itself, dulls the spirit of enterprise; but when you add to that the handicap of being obliged to sell your product at a given price regardless of quantity or quality you have a factor that well nigh makes it impossible for men to exhibit a spirit of enterprise comparable with commercial life.

"We, therefore, find, in comparing various public utilities, that the electric light and gas man shows a greater spirit of enterprise than the electric railway man—very often departments in the same company. Apparently the gas and electric men act under the stimulus of competition. Their respective fields overlap to a degree, and they also have the advantage of having something tangible to sell. In addition to selling electricity or gas, as the case may be, they sell utensils, appliances of one kind or another which promote the increased use of the intangible article that they have; but the electric railway man, who has just one intangible thing—transportation—has not the same incentive.

"The electric railways, particularly the larger ones, did not appreciate the necessity of going to a different method of selling their product until the automobile jitney competitor came along.

"The Chairman: Strictly speaking, can you call an electric railway company a monopoly, in view of the automobile and other competition?

"Mr. Jackson: Not today, Mr. Chairman, that is the point I am trying to make—that we are in a readjustment period. A monopoly is changing over into a business and business implies competition.

"That feeling, that you could sell your product, did not impress itself upon the electric railways until the coming of the automobile jitney competitor. This competitor chose to sell only a certain quantity of transportation, leaving to the electric railway the long rider at the same flat price. It took something of that kind to bring out the illogical system of fares that had been built up in America.

"It stands to reason, of course, that the electric railways alone were not to blame for that. You may say this was an American policy and a municipal policy; the flat fare was very often the price paid for consolidation. Nevertheless, it was one of the factors that kept the electric railway operator from developing into a business man.

"With the coming of the automobile competitor, the first effort of the railway operator was to get him off the street on the plea of unfairness, that the competitor did not pay the same taxes, share the same burdens, and so forth. In fact, it was declared to be a breach of contract to permit him to operate on the streets at all.

"Be that as it may, no sooner had the public tasted a better mode of transportation, a greater frequency of transportation, greater speed, greater convenience, than no condition of unfairness at all will cause the permanent elimination of the competing form of transportation.

"You cannot conceive, for example, that in a city where people are used to getting a jitney every two or three minutes they will permit the return of a system where trolley cars come at intervals of ten or fifteen minutes. That is inconceivable. They will not permit that. The question of fairness, gentlemen, does not enter at all, because people are swayed by motives of selfish convenience.

"I need only call to your attention this fact, that in England, where so many of the tramways are owned by the municipalities, it has been impossible to secure a law that would place the motor bus on the same basis as the street car. The street car, operated by the city, pays taxes to the city far in excess of the motorbus operated by a private company. If the public of England would not permit the taxing of the motorbus to a degree that would make it impossible to compete with the tramway, even though the tramways are owned so largely by the cities, what hope have we that the American public will oblige the privately operated electric railway in that direction?

"Some other means must be found to eliminate that competition. That means, of course, is good service, to which I shall refer later.

"I also believe that the American electric railway is not a 100 per cent modern electric railway unless it includes any motorbus services that may be required in the community. In other words, all the popular or mass transportation of a community ought to be under one central direction. That is a lesson that we can study profitably from experiences on the other side.

"If the electric railway could not produce mass transportation today cheaper than any other form of locomotion, it would be on its way to Dodo Land; but we do know that you

can, today, still produce electric railway transportation cheaper and more satisfactorily than any other kind. It therefore remains to ask what the electric railways of the country can do to produce that transportation more cheaply and then, having produced it more cheaply, sell it instead of offering it."

And so, as Mr. Jackson views it, the jitney is a bright angel to the electric railway industry after all. Yet his optimism cannot lead further than the hope that obvious misfortune will prove to be a blessing in disguise. Walter Jackson and Roger Babson unite in the opinion that competition is good for monopoly because it destroys it. Here lies an issue that goes to the very root of the electric railway problem. For the present, it is sufficient that street railway credit is gone, and that automobile competition was one of the band of conspirators that caused it to vanish from the sight of men. The private automobile and the jitney bus came into serious competition with the electric railways just as the latter were beginning to feel most keenly the effects of public policy that found expression in special taxes and public demands for better service enforced by regulatory commissions. The foundations of the hopes that had been capitalized were one by one being swept away, with the result that even prior to the beginning of the World War the earning power of the electric railways was already proven to be insufficient to support the financial structure which had been erected on it as a base.

CHAPTER XXI

INCREASING DEMANDS OF LABOR

Street railway profits in the early days were largely the product of low wages and long hours of labor for the men engaged in street railway service. An abundant supply of labor, and the fact that conductors and motormen required very little technical training to prepare them for their jobs, made it comparatively easy for street railway companies to resist the unionization of their employes and to hold wages down. Before the coming of the automobiles in the enormous numbers that characterize the present time, the suspension of street railway service was an even greater disaster than it is today. If men were available to run the cars, and the companies under their franchise obligations were required to give continuous service, they had a good claim upon the municipal authorities to furnish the police protection that would enable them to break a strike. Of course, the employes, if organized, had power to inflict great losses upon the companies, especially if public opinion was on the side of the men, but a high resolve to walk until the company gave in was not likely to appeal to the general mass of the people, unless the company was clearly guilty of outrageous conduct in its relation to its employes. Nevertheless, taking the country as a whole, street railway employes were getting better and better organized from year to year and were demanding and receiving higher wages and better conditions of work, with the result that the labor cost, which is an element of unusual importance in the electric railway business, gradually increased.

However, an analysis of the available statistics does not warrant the conclusion that labor has been getting as rapidly increasing a share of electric railway revenues as might be supposed from a cursory inspection of the tables of wage rate increases. The statistics of wages presented by Mr. James W. Welsh, for the Electric Railway Association, indicate an increase of 31 per cent in trainmen's average hourly rate of pay from 1907 to 1917, and of course a big jump in wages is shown from 1917 to 1918. A further increase would be shown for 1919 if the figures were available.¹ Yet, as Mr. Welsh shows, wages have remained a nearly constant factor in relation to operating expenses as a whole. It is the relation of wages to revenues that offers the most important comparison in connection with our present discussion. The following tabulation is based on the census figures for 1902, 1907, 1912 and 1917, and on Mr. Welsh's estimates for 1918:

<i>Year</i>	<i>Railway Operating Revenues</i>	<i>Salaries and wages</i>	<i>Salaries and wages to Railway Operating Revenues</i>
1902.....	\$247,553,999	\$ 88,210,165	35.2%
1907.....	400,896,034	150,991,099	37.7%
1912.....	535,996,122	200,890,939	37.5%
1917.....	650,149,806	267,240,362	41.1%
1918.....	691,131,682	313,748,577	45.4%

It will be observed that in 1902 salaries and wages took 35.2 per cent of railway operating revenues; in 1917, they took 41.1 per cent; and in 1918, if Mr. Welsh's estimates are correct, 45.4 per cent. The census figures show that the total railway operating revenues per employe steadily increased from period to period as will be seen from the following:

<i>Year</i>	<i>Total Number of Employes</i>	<i>Railway Operating Revenue per Employe</i>
1902.....	140,769	\$1,758.58
1907.....	221,429	1,802.36
1912.....	282,461	1,897.59
1917.....	294,826	2,205.20

These figures indicate an increase of 25.34 per cent from 1902 to 1917 in the average earning capacity for the company of the men employed by it. This is doubtless due mainly to the increasing size of cars and the increasing density of traffic on the electric railway lines generally. It remains a fact, however, that notwithstanding the increase in revenues per employe, salaries and wages increased more rapidly so that in 1917 they absorbed about six cents more out of every dollar of revenue than they did in 1902. It must not be overlooked that the figures used do not relate to the conductors and motormen alone, or even to all the wage earners taken together, but to all employes from the president down to the car cleaner. Mr. Lauck in his brief for the Amalgamated Association, shows that the total amount of wages paid to trainmen did not increase in as great a proportion as the salary roll increased, or as the payroll of classes of workmen other than conductors and motormen. He shows that in 1902, there were 20,000 more conductors and motormen than all other employes, while in 1917 there were 20,000 fewer. No doubt the increase in maintenance and rehabilitation accounts in part for the relative decline in the number of trainmen employed. Also, the introduction of larger cars slowed down the rate of increase in the number of trainmen.

While it seems to have been clearly shown that the trainmen were underpaid before the war and that in most cases they are still underpaid, nevertheless, the fact is that their share in the gross earnings increased, and that to this extent the proportion of the total revenues left for the investor decreased.

At this point consideration must be given to the conclusions reached by Mr. Lauck in his brief. At pages 29 and 30 of that document, he says:

"It may be stated as a general conclusion that a review of the past history of street-railway companies, in general, discloses the fact that the extraordinary gains in revenue, which have arisen from the growth in the population of cities, the granting of special franchises, the development of trade and industry in and around urban centers, the adoption of mechanical devices and improved operating methods, added capital, investment, or the increasing work and efficiency of employes, have to a large extent been absorbed by fictitious capitalization, or dissipated by improper or misguided financial mismanagement.

"The conclusion is irresistible that the present deplorable financial condition in which the street-railway companies find themselves has not been due to an advance in operating cost arising from increasing outlays to labor, but has primarily arisen from past mismanagement of the finances of these public utilities. Had these companies been properly managed and their earnings conserved in the way they should have been, they would find themselves in a very prosperous condition at the present time. The operating revenues would be amply sufficient on the basis of a 5-cent fare not only to pay liberal and attractive returns on the capital actually invested, to provide for new financing and better roadbed and equipment,

but even after all of these deductions from net operating returns, there would be a surplus sufficient to yield a living wage to employes, and to furnish every facility for the safety and convenience of the public. Payments to employes of the industry have not only had no effect upon the present finances of the companies, but, as a matter of fact, the employes have not had an equitable participation in the results of their own labors. Their past productive efficiency has been absorbed by fictitious capitalization, and, if existing methods and security issues were to be allowed to be continued into the future, the fruits of the labor of employes as yet unborn would be absorbed by fictitious securities now outstanding. Unless the present basis of financial management and control is changed the future is without hope to the employes of the street railway companies or to the public."

These conclusions are very important, if true. It seems clear from the testimony and from our analysis of the data made available to the Commission, that Mr. Lauck's general conclusion has an element of exaggeration in it. The importance of past mismanagement as a factor in the destruction of credit is undoubtedly great, as I have clearly shown. It seems also to be quite true that wage increases awarded to trainmen by the National War Labor Board or as a result of the Board's activities are not primarily and fundamentally responsible for the loss of earning power that has caused credit to collapse. Yet, if we note the fact that in 1917 when the five-cent fare was still generally in vogue the total railway operating revenues amounted to \$2,201.81 per employe, while the trainmen claim \$2000 as a proper minimum living wage under present conditions, we are forced to the conclusion that in absorbing ten-elevenths of all the street railway revenues, the employes would be crowding the other claimants for a share in the nickel pretty hard. It is not certain that the nickel would be enough to go around! At least it might be necessary to cut down the number of employes somewhat.

The economic changes which I have described in this and the preceding chapter had begun to make themselves felt before the war. Automobiles and labor problems were a menace to the hopes of the speculative investors in street railway securities. The nickel, representing the inexhaustible source of street railway prosperity, had been attacked from so many angles that the investor as the residuary legatee of the 5-cent fare already saw his share of the estate shrinking toward the vanishing point.

Thus stood the electric railway industry when the political and financial structure of the entire world was brought into sudden danger by the attempt of western civilization to commit hara-kiri.

CHAPTER XXII

THE WAR AND THE DOLLAR

From the point of view of the American electric railways and of the American public, the World War was wholly unexpected, and, without question, it brought about economic changes of overwhelming importance. The competition of the automobile and the jitney, the gradual increase in the share of earnings claimed by labor, the public policies relating to taxes, service and the issuance of securities, the limitation of fares and the gradual extension of ticket concessions and free transfers, the failure of the companies to make adequate provision for depreciation, and the policy of overcapitalization, as factors in the development of the electric railway problem and in the curtailment of electric railway credit, all worked more or less slowly and by degrees, although quite relentlessly, toward the final result. The war came suddenly and in its effects swallowed up everything else.

Many of the witnesses appearing for the electric railways admitted that the industry had never been on a sound financial basis, but they all maintained that it was the war and the sudden economic changes resulting from it that justified the industry in appealing to the National Government for help. The increase in prices of labor and materials entering into the construction, maintenance and operation of electric railways during the war period has come along in the stream of increases in the prices of general commodities and in the wages of labor in all industries. To the electric railway man the problem appears relatively simple. He alleges that the margin between operating expenses and gross revenue has been rapidly shrinking and that, as a consequence, the share of the revenues available for return upon capital is disappearing; and that in some cases the revenues are not even sufficient to pay the expenses of current operation. He sees that more revenue is needed and points to the fact that the price of "everything else" has doubled, or trebled, or quadrupled, and asks why, under those conditions, the price of electric railway transportation should remain the same. He alleges that the electric railways are the victims of this unexpected revolution in economic conditions brought on by the World War—a revolution that has been world-wide, and the effects of which, so far as present indications go, are likely to continue for a long time. He takes the position that the 5-cent fare, or whatever fare it was that was being charged on a particular railway during normal times prior to the war, may be presumed to have been a reasonable charge, or, according to his present lights, at least not an excessive one, and that therefore the relief to which the electric railways are entitled in the emergency that has arisen is to have their fares raised and their revenues increased in proportion to the increase in the cost of the service rendered.

It has not been difficult at any time during the past two or three years for an electric railway to demonstrate to a regulating authority that wages have increased and that the prices of materials have gone up. Operating expenses are, undoubtedly, much greater than they were, and the cost of a given amount of new construction and replacements is also much greater than it was before the war. Upon the simple basis of the facts of experience in any given street railway case, it can readily be proven that if the revenues derived from the public for the service rendered under pre-war conditions were not excessive then the revenues now derived at the same rates of fare for the same amount of service are clearly insufficient.

There are several reasons why the problem is not as simple as it seems:

1. Under the conditions that prevailed before the war, street railway rates were generally fixed by contract. Very few electric railways had come under the supervision of public service commissions to the extent of having their properties valued and their rates of fare established without reference to the limitations prescribed by contract or custom. In many cases the public, over a long period of years, had been demanding lower fares but had been met by the claim that the contracts were inviolable, and that fares could not be reduced below five cents. Thus, although the street railways had generally been brought under public regulation to a greater or less extent with respect to service and new capitalization, yet, as a whole, they had not reached a stable position as a regulated industry with the police powers of the state effectively used to fix just and reasonable rates. For this reason, the public has been inclined to deny the validity of the assumption urged by the electric railways that the rates in vogue before the war were necessarily fair.

2. The cost of labor and materials entering into street railway construction and operation, though affected by the same general causes which have affected wages and the prices of commodities in general, may not have been affected to the same extent. The fact that the cost of living, as measured in the usual way by Dun's or Bradstreet's index or by the indices of the Department of Labor, has doubled or trebled does not prove that the cost of labor and materials entering into street railway operation has doubled or trebled. The general increase in the cost of living is merely a rough indication that the necessary cost of any service, including street railway service, will probably be greater.

3. Taxes and other public burdens, while subject in some measure to the changes which affect general commodity prices, are not likely to change in the same proportion as ordinary operating expenses.

4. The cost of capital, which is a considerable but largely undetermined element in the cost of street railway service, is not affected by a change in the general price level to the same extent, or necessarily in the same way, as operating expenses are affected. More than half of the capitalization of the street railways, and perhaps nearly all of the actual investment in street railway facilities, is in the form of long-term bonds, or shares of stock with dividends guaranteed by long-term leases, so that the fixed charges which are a part of the cost of electric railway service do not change; they are fixed by contract. Moreover, the rate of interest necessary to attract new capital into the business may or may

not change with the general price level. Interest rates are determined by other considerations.

5. The alleged obligation of an electric railway to make use of a surplus accumulated in years of prosperity to tide over an emergency period, when the current margin of profit is diminished or wiped out by the increased cost of service, comes in as a disturbing factor in the determination of the fares which the electric railway is entitled to charge.

All these things go to prove that what the electric railway men often point to as a perfectly simple proposition is extremely complex. Great confusion has been brought into the discussion by the attempt sometimes made by the electric railways to prove their case by evidence as to the purchasing power of the dollar without depending entirely upon direct and detailed evidence of the increasing cost of service measured in terms of dollars. In the presentation of a company's claims for increased rates before a public service commission, doubt is often raised as to whether the commission is being called upon to determine the cost of railway service and to stabilize the rate of return upon the investment, or to investigate the purchasing power of money and to stabilize the value of the dollar. In the confusion, it seems to escape the attention of a great many people that it is impracticable for every national, state or municipal regulating body to set up as an authority for stabilizing the currency, and that an appeal on this basis to particular regulating agencies without authority to deal with the problem as a whole only makes confusion worse confounded.

It cannot be denied that a great economic change affecting the cost of living and the purchasing power of money has a far-reaching effect upon particular values and upon credit. Because of the existence of fixed capital, and contractual relations which are the basis of credit, any radical change in the purchasing power of money has the result of automatically transferring values from one group of property owners to another. When general prices are rising, bondholders and all those who get fixed returns upon their investment, or fixed compensation for their services, are losing money, while other classes are making corresponding gains. In a rough, general way the bondholder loses and the stockholder gains when prices are rising, and the stockholder loses and the bondholder gains when prices are falling. These changes *take place*; they do not wait for the edict of some regulating body, and when such a body is called upon in a particular case to restore values to those who have lost them, in reality it is being called upon to take values out of somebody's pocket and put them in some other body's pocket. If it attempts to do so, it not only increases the confusion, but is likely to perpetrate new robberies in its effort to follow up and neutralize the effects of economic law. For example, in the case of the electric railways there have been two sets of contractual relations: the first, between the public and the companies, and the second, between the operating stockholders on one side and the bondholders and guaranteed stockholders on the other. With fixed fares and standards of service, the public loses as prices go down, and the companies lose as prices go up. If the fares and standards of service are not fixed and inflexible, but are adjusted from time to time, automatically or otherwise, to changes in the cost of service, then the bondholders lose as prices go up and

the unguaranteed stockholders gain, and *vice versa*. If the contracts with the public are broken in a period of rising prices, as is now demanded by the electric railways generally, then the public loses the benefit of its contract, while the stockholders not only save themselves from the loss that under their contracts they were bound to incur, but also gain all that the bondholders lose by virtue of the contracts by which the annual rate of interest and the amount of the principal ultimately to be repaid are fixed in terms of dollars. While the companies are eager to induce or compel the public to pay the cost of service in good "American" dollars, they do not consider for a moment the readjustment of the contracts as a result of which the "secured" investors get paid in "Mexican" dollars.

Beyond doubt economic changes affecting the purchasing power of money work enormous injustices and the stabilizing of the purchasing power of money would help to make possible the establishment of security and orderly development in the financial arrangements of the electric railways and other utilities. But credit is based upon contract; and contract is based upon the recognition of values as measured by the monetary standard established in the country under whose laws the contracts are made. There is the same reason for the enforcement of contracts between municipalities and electric railway companies as there is for the enforcement of contracts between individuals. If they can be enforced, and are not, then the result is that a particular class of contractors is picked out to receive community favors. All other special interests and the interests of the community as a whole are made to pay the price of this favoritism. Of course, the enforcement of a public contract, like the enforcement of a private contract, is limited by the ability of the contractor to fulfill his obligations. "You cannot get blood out of a turnip," and in the case of a necessary public service such as local transportation, the public in an emergency resulting from economic changes or any other cause must make any shift that may be necessary to *get the transportation*.

Disclaiming any special knowledge of the electric railway problem, Professor Irving Fisher of Yale University appeared before the Commission at its request to discuss the purchasing power of money, the reasons for its ups and downs and the general effects of its fluctuations upon industry. His testimony is illustrative and illuminating, though evidently not intended to be entirely exact in the figures used. How certain classes of people lose and others gain by the depreciation of the dollar in terms of its purchasing power, is shown by Professor Fisher at pages 1330 and 1331 of the Proceedings, where he says:

"Some people would be inclined to say that the rise of prices is really simply the depreciation of money; if prices are now twice as high as they were before the war simply because we have a 50-cent dollar, so to speak, then it ought to make no difference to anybody, because if everybody has twice as much money and every price is double, nobody is better or worse off. And in fact that is true if the premises were correct. The trouble is the premises are not correct.

"In this upheaval there are some things that cannot step lively as the other things do; some things that lag behind. All those things that are fixed by contract; if there is a contract price, it must be kept, even though it would naturally be raised. If there is a law or a franchise fixing a 5-cent fare it cannot be changed with the inflation which changes other prices. If a government clerk has a salary of \$2,000, it is not going to change as the prices of wheat change in the market, it will stay unchanged for years at a time. If a wage earner has a certain wage scale it will not be adjusted automatically to the change in the cost of living. * * *

"For instance, consider a saving bank depositor. Take a working girl who puts \$100 in the savings bank just before the war. Now she will have about \$120, but when she comes to spend that \$120 she will get for it only 60 per cent of what she could have gotten if she had spent her \$100 four years ago. So she has really been cheated out of all her interest and 40 per cent of the principal as well by the depreciation of the dollar.

"Now the fault is not in the groceryman or the tradesman from whom she buys the high priced goods; it is not in the savings bank, but it is in the dollar in terms of which her account has been kept. There has been a wrong yardstick used in measuring her accounts and the accounts of the rest of us.

"In the same way a bondholder has not been getting any real income since 1896. That is a startling statement to make, but it is absolutely true, and the fact that it is not appreciated is simply due to the fact that people do not talk in terms of monetary depreciation when they ought.

"But you take a widow who was left say a fortune of \$100,000 in 1896. This is invested in 4 per cent coupon bonds and she cuts her coupons and gets \$4,000 a year and lives on it between that time and this. As a matter of fact she has been eating up her capital, and that is all she has been doing, because while nominally she still has \$100,000 of capital, that today is only one-third of the capital with which she started, in actual purchasing power. She has used up two-thirds of her actual purchasing power in this time."

Professor Fisher assigned great importance to "index numbers" in the measurement of the purchasing power of money, and showed that with our present unstable dollar, price levels are always changing. At page 1121 of the Proceedings, he says:

"Commissioner Meeker's index numbers are carefully weighted, the wholesale index numbers, on the basis of the volume of transactions, or the value of the volume of transactions of the different commodities. The commodities which are sold in the markets in large quantities have a greater importance in the average than the commodities which are sold in small quantities. So that it is, I think, the most scientific index number that we have had in the world.

"This instrument, the index number, is a very approximately accurate measure of changes in the price level, as is shown by the fact that, whether your index number is scientific or unscientific, it gives very much the same result.

"We find the index number of prices has constantly changed. It is not a question simply of a changed price level since the war.

"Some people seem to talk about reaching a new level of prices, as though we were going to keep them up. We are not going to keep them up. We never have kept a price level for five years at a time. It constantly changes. We were complaining about the high cost of living before we entered the war. There had been a rise of 50 per cent in the price level between 1896 and 1914, when we entered the war, and there had been a great fall in the price level prior to 1896, going back to 1873 in the world in general, and to 1862-1865 in the United States in particular. And before that the price level had changed."

For convenience in discussing the trend of general prices, it should be noted that the Labor Department takes the prices of 1913 as 100, and that the 1913 index represented very nearly the average for the five years immediately preceding the rise in prices due to the war; also that the index number at the low price level in 1896 was approximately 66, and that in December, 1919, the index number had risen to 237. I refer to the Department of Labor's index number based upon wholesale commodity prices.

At pages 1331 and 1332 of the Proceedings, Professor Fisher continues his testimony with respect to the relative fortunes of bondholders and stockholders, under shifting conditions with respect to the commodity value of the dollar, as follows:

"And so it is that bondholders have not been making any money since 1896. They are among the ones who have been losing money. On the other hand, between 1873 and 1896 it was the bondholder who was getting rich because of the appreciation of the dollar in terms of which his bonds were reckoned.

"On the other hand, the stockholder, excepting the stockholder in concerns like electric railways, where the price of the product is the thing that does not change, the stockholder has been winning what the bondholder has lost and losing what the bondholder has gained. Between 1873 and 1896 the stockholder was losing and the independent producer generally was losing, the farmer was losing, and that loss made a grievance which culminated in the

Bryan campaign in 1896, which was largely a Populist and farmer discontent. The debtor class was much mentioned there. People who had farms which were mortgaged could not pay their mortgages because the mortgage was a mill-stone around their neck and getting heavier and heavier while the price of wheat was going down. It was really the appreciation of money which was ruining the farmer, and that produced a form of discontent at that time called Populism which died down as the price turned the other way, and you can not find a Populist in Kansas today because the conditions which generated that condition have disappeared.

"Now we have the opposite situation and we find the bondholder and the savings bank depositor is losing, the salaried class is losing and the utilities corporations, like the electric railways are losing, and the gain is being absorbed by the stockholder, and we are dubbing him the profiteer; just as in 1896 we nick-named the bondholder 'the bloated bondholder' and complained of him, so now we are nick-naming the man who gets the gain, the profiteer.

"Commissioner Meeker: You are not including the stockholders in the street railways among the bloated profiteers, are you?

"Mr. Fisher: Not the street railroad companies, but I think the stockholders in general are the so-called profiteers today. The profiteering today which we hear so much of is one of these consequences of this maladjustment, and not because of the price level. They are the by-product and I lament the fact that the public eye is fixed so much on this today as to cause a class hatred which is not justified, instead of a realization of an impersonal cause as the true reason. I do not mean that there is not criminal profiteering. There is, or I suppose there is, but it certainly is not responsible for this rise in prices.

"This has switched billions and hundreds of billions of dollars worth of wealth from one class to another. You will find on Fifth Avenue, I understand, an entirely new class of rich people today compared with what were there at the end of the long period of falling prices. In 1896 there were the old Knickerbocker families with their property invested in bonds who were having a comfortable home and living at the low prices very well, but they could not stand the gaff when prices began to go up. They did not see that their money was depreciating and so they were losing all their income. They expressed it in terms of commodities but not of money, and they realized they were losing, and they sold out to the stockholders, the profiteers."

That the normal result of the depreciation of money, as indicated by Professor Fisher's testimony just quoted, has not in fact been shown in a redistribution of values as between the stockholders and the bondholders of the electric railways is indicated by Mr. Babson's testimony with respect to the shrinkage in the value of stocks and bonds during the war period. At page 1067 of the Proceedings, appears the following:

"Commissioner Gadsden: I wish you would give us some information along the lines from an investment standpoint of the shrinkage in values of street railway securities. You have made a study of that problem, have you not? Just leave the question of fares and rates out of it and let us discuss for a moment what the effect on the investment feature has been.

"Mr. Babson: Taking all the street railway bond issues of the country, the shrinkage has been about 25 per cent and considering all stock issues of the country the shrinkage has been about 75 per cent.

"Commissioner Gadsden: Can you approximate what that means in dollars and cents?

"Mr. Babson: It amounts to over a billion dollars; it amounts to over a billion dollars and of course a great deal of these securities are held by the banks and trust companies and insurance companies and the mass of the people.

"Commissioner Gadsden: Is it not a fact that up to five or six years ago street railway securities were considered rather a favorite security in the market?

"Mr. Babson: Well, the savings bank investment laws of Massachusetts are generally considered as the strictest of any state in the country; that is to say, judges all over the country when it comes to guardianship questions will state that the money may be invested in anything legal for Massachusetts savings banks, as they are the most strict of any of the laws. Now, the State of Massachusetts made street railways legal for Massachusetts savings banks some ten years ago.

"Mr. Warren: Massachusetts street railway securities?

"Mr. Babson: Yes, Massachusetts street railway securities. And I was looking over the accounts of a bank the other day in Massachusetts, a savings bank where they had bought the first mortgage bonds of the Warren, Brookfield & Spencer Street Railway Company, bonded for only \$8,000 a mile, legal for Massachusetts savings banks, and where there was an absolutely total loss. The stockholders not only lost all they put in, those bondholders lost all they put in, and when the tracks were ripped up a few months ago and sold for junk there was only enough to pay the lawyers and receivers' certificates. So I feel very strongly on that point."

The electric railway bondholders have lost 25 per cent and the stockholders 75 per cent according to Mr. Babson. The same tendency is shown in the case of the securities of the trolley lines of New Jersey. In May, 1919, Mr. Thomas N. McCarter, President of the Public Service Railway Company and also of the Public Service Corporation of New Jersey, submitted to the New Jersey Board of Public Utility Commissioners statements showing that from December 31, 1915, to May 1, 1919, there had been a shrinkage in the market value of the bonds and underlying guaranteed stocks of the Public Service Railway system from \$93,004,555 to \$75,116,665, without any allowance for the intervening depreciation in the purchasing power of the dollar. During this same period the Public Service Corporation's common stock, supported by an equity in the common stock of the Public Service Railway Company and its affiliated companies in the gas and electric fields, decreased in market value from \$116 per share to \$80 per share, and by December 15, 1919, this stock had fallen to \$65 bid. In the "Memoranda and Data" submitted to officials of the Treasury Department, January 8, 1918, by the special committee representing the gas, electric and street railway interests, a table was presented showing that the market value of the common capital stock of seventeen leading public utility companies, some of them holding companies, and many of them interested in gas and electricity only, had shrunk from the highest prices of the preceding five-year period to the then low level no less than \$352,652,976 in the aggregate or 53.1 per cent. All this goes to show that public utilities in general and electric railways in particular are not in the same class with ordinary industrials, and the reason for it undoubtedly is that these utilities, even where their rates are not controlled by contract, are nevertheless in a position where their charges are restricted by the regulatory power of the government. In effect, the electric railways and other utilities, in asking that they be left free to adjust themselves to changing economic conditions the same as other industries are asking the impossible; they are asking to be permitted to surrender their charters as public utilities and to withdraw from the field of public regulation altogether. They demand that an entirely new relation between themselves and the community be established. They say that regulation has broken down in an emergency; and that they "cannot go on this way" any longer. The issue seems to be this: shall the utilities be permitted to lapse into the status of private industries, or shall they be transformed into full-fledged public services for which the community, for better or for worse, accepts complete responsibility?

We must now turn from the fascinating discussion of depreciation in the value of money, which leads only to confusion and bewilderment when applied to the problem of electric railway credit, to the specific changes in the cost of electric railway service that have grown out of the war. The real test of the effect of increasing prices in the electric railway field upon the credit of the industry will be found in two questions: first, is the margin left for return on investment after the payment of all prior charges less than it was before? and, second, does the investment require an even larger return than it did before when there was more for it?

The first question is answered by a study of operating ratios. As used

here, the operating ratio is the proportion of gross operating revenues that is consumed by operating expenses exclusive of taxes. The special census reports show the general operating ratio for the street railways of the country to have fluctuated as follows:

<i>Year</i>	<i>Ratio of Operating Expenses to Operating Revenues</i>
1890	68.4 per cent
1902	57.5 per cent
1907	61.1 per cent
1912	58.7 per cent
1917	63.8 per cent

Mr. James W. Welsh, in his testimony on behalf of the American Electric Railway Association, submitted figures in connection with Chart C-120 to show that the operating ratio was 60.01 in 1916; 64.98 in 1917; 72.08 in 1918; and 76.43 for the first four months of 1919. These ratios were worked out on the basis of car mile statistics submitted by a large number of companies to the Electric Railway Association. It will be observed that Mr. Welsh's operating ratio for 1917 is 64.98 as compared with 63.8 derived from the census figures. In the Electric Railway Journal, issue of September 6, 1919, appears a consolidated income statement for 124 companies for the month of May, 1919, showing an operating ratio of 72.62 per cent. In the issue of the Journal for February 14, 1920, a combined income statement of 81 companies for the month of October, 1919, shows an operating ratio of 76.7 per cent; and in the issue of March 6, 1920, appears a combined statement for 87 companies for the month of November, 1919, showing a ratio of 76.85 per cent. It is clear beyond a doubt that there has been a considerable increase in the operating ratio on most electric railways since 1917, and the census figures show an increase of five points from 1912 to 1917. However, from 1902 to 1912 the increase had been only 1.2 points, and going back to 1890 when the process of electrification was only nicely begun, we find a ratio of 68.4, which is 4.6 points higher than 1917. Of course, it must not be overlooked that where rates have been increased, or where traffic shows an extraordinary growth, the increase in revenues may keep pace with the increase in operating expenses so as to hold the operating ratio steady. The figures for all the electric railways operating in New York City during the past ten years are significant, as they represent results obtained in a metropolitan community where street railway fares have not been materially increased. The total street railway operating revenues, the total operating expenses, and the operating ratio for each year ended June 30, from 1910 to 1919, inclusive, were as follows:

STREET RAILWAYS OF NEW YORK CITY

<i>Year Ended June 30</i>	<i>Total Street Railway Operating Revenues</i>	<i>Total Operating Expenses</i>	<i>Operating Ratio</i>
1910	\$79,420,911.33	\$43,451,147.50	54.71
1911	84,424,435.17	46,613,435.73	55.21
1912	88,242,093.66	47,746,580.78	54.11
1913	92,140,054.06	48,661,244.41	52.81
1914	94,153,673.93	50,108,516.28	53.22
1915	93,644,428.41	50,322,473.15	53.74
1916	98,628,185.20	52,038,406.95	53.77
1917	100,183,784.61	55,716,495.04	55.61
1918	103,500,189.17	60,606,538.43	58.55
1919	110,191,682.33	75,945,712.61	68.92

The jump of 10 points in 1919 is significant. Any rise in the operating ratio of an electric railway makes a direct attack upon its credit, as it means a shrinkage in the margin of earnings left for taxes and capital charges. The question remains: Is there enough left, even after the operating ratio has risen? Upon this point, it is interesting and instructive to compare the operating ratios given above with the operating ratio of the Cleveland Railway Company, which has enjoyed a position of unique strength during the war period. The Cleveland Railway operating ratio has fluctuated as follows:

<i>Year</i>	<i>Operating Ratio</i>	<i>Year</i>	<i>Operating Ratio</i>
1913	75.26	1916	73.40
1914	77.56	1917	78.84
1915	70.14	1918	76.30

This was under the Tayler service-at-cost franchise; the revenues were less than the cost of service in the years 1913, 1914 and 1917, and more than the cost of service in 1915, 1916 and 1918. Taxes in Cleveland absorbed 6.04 per cent of the gross revenues during 1913, 1914 and 1916; 5.71 per cent in 1915; 6.27 per cent in 1917 and 5.79 per cent in 1918. It will be seen, therefore, that the residue left for surplus and return upon investment was 18.7 per cent in 1913; 16.4 per cent in 1914; 24.15 per cent in 1915; 20.56 per cent in 1916; 14.89 per cent in 1917, and 17.91 per cent in 1918. It is significant that the Cleveland Railway Company has been able to preserve its credit with an operating ratio which in 1918 was as high as 76.3 per cent, or 7.38 points higher than the operating ratio in New York City for the year ended June 30, 1919. Taxes on New York City systems absorbed 7.18 per cent of gross revenues, as compared with 5.79 per cent in Cleveland during 1918. With operating expenses and taxes deducted from gross revenue the Cleveland Railway Company, in 1918, had 5.99 cents less per dollar of revenue for return upon capital than the electric railways of New York City had during the year ended June 30, 1919. Yet the credit of the Cleveland Railway Company was the best in the country, while the New York City lines were in bankruptcy or trembling on the verge of it. It cannot be doubted that the difference was chiefly due to the differences in capitalization and public relations.

We may now turn to an examination of the evidence submitted to the Commission with respect to actual increases during the war period in the cost of materials and labor entering into electric railway construction, maintenance and operation. Mr. John G. Barry, sales manager of the General Electric Company, testified for the American Electric Railway Association with respect to electrical apparatus and supplies used by electric railways, and submitted, at page 388 of the Proceedings, the following figures of average cost for each year from 1912 to 1919, counting the price during 1914 as 100 per cent:

"AVERAGE COST OF ALL ELECTRICAL APPARATUS AND SUPPLIES USED BY ELECTRIC RAILWAYS

1912	104%	1916	130%
1913	101%	1917	175%
1914	100%	1918	204%
1915	104%	1919	197%"

At pages 392 and 393 of the Proceedings, Mr. Barry discussed the present condition of the electric railways, and the remedy therefor as follows:

"Commissioner Sweet: Have you any distinct idea now as to what is the matter with the street railway companies and what would be the best remedy for it?"

"Mr. Barry: Well, my notion is this—of course, the street railways are reduced to the deplorable condition in which they are now due to the tremendous increases they have had to pay for their materials, the tremendous increase they have had to pay for wages and taxes and—

"Commissioner Sweet: Without a proportionate increase in income?"

"Mr. Barry: Without the income. Now while I do not know very much about the financial or operating conditions of electric railways outside of unfortunately investing some of my personal money in electric railways, my notion is that the electric railway companies must be given immediate relief by an increase in fare or many more of them are going to the wall. I think that if it were possible to give the electric railways an increase to 6 cents or 7 cents or whatever is considered reasonable, that that is the only method of saving many electric railway companies from bankruptcy."

Mr. Miles B. Lambert, assistant manager of the Railway Department of the Westinghouse Electric Manufacturing Company, also testified upon the subject of price increases. At pages 393 and 394 of the Proceedings, he says:

"The Westinghouse Company is engaged in the manufacture and sale of electric street railways and railway motors and car equipment to electric street railways: controlling apparatus, locomotives, rotary converters, transformers, switchboards, motor generator sets, turbines and other electrical apparatus.

"Our pre-war average gross sales of this apparatus and equipment ran from seven million to fifteen million dollars a year; it varies that way, within the United States, our customers being generally throughout the United States. During the past two years it has ranged from 30 to 40 per cent of this normal.

"Beginning with about the middle of the year 1915 there has been a steady and steadily accelerating increase in the prices of the various equipment and apparatus until at the present time as compared with the middle of the year 1915 the percentages are about as follows:

Railway motors and car equipment, approximately 87 per cent increase.

Locomotives, approximately 87 per cent increase.

Rotary converters, approximately 75 per cent increase.

Transformers, approximately 70 per cent increase.

Switchboards, 100 per cent.

Motor generator sets, 95 per cent.

Turbines, 100 per cent.

"I have given some thought to the future conditions and prices, but can see nothing at present which would indicate to me a substantial reduction in prices other than the slight reduction that has taken place during the past two months.

"These increases in our prices as manufacturers and producers of electrical equipment have been caused by our increased cost of raw material, manufacturing machinery and labor. In comparing the present time with the latter part of the year 1914 and the first half of 1915, I find that machine tools which we must purchase to manufacture our apparatus and equipment show an increase of approximately 100 per cent.

* * * * *

"All raw materials have shown great increases, as shown by the following tabulation:

Pig iron, approximately 106 per cent.

Steel plates, 141 per cent.

Copper, 58 per cent—

"That corrected as of today would go up a bit, because copper has gone up from the time I had this tabulation made.

Steel castings, 220 per cent.

"I might digress here for a moment for the benefit of the Commissioner who is asking about the discrepancy in the high cost of cars. The reason for the high cost of cars is because of the steel castings which both companies get from the foundries and the Carnegie Steel Company; so the price of materials entering into cars has gone up 220 per cent.

"Spelter, 30 per cent; coke, 35 per cent; mica, 100 per cent; asbestos material, which we use a great deal of, 560 per cent; other insulating materials, 125 per cent; magnetic sheet steel, 280 per cent."

At page 395, Mr. Lambert touched upon labor costs as follows:

"In my judgment the price of labor during the next year and perhaps the next two years is going to increase unless, as a former witness said, the high cost of living comes down very rapidly.

"It might be well to mention there, Mr. Warren, that when you stop to consider it, and segregating the price of materials and labor as two distinct and separate factors, labor after all is nearly the whole thing when you take everything from its source. Take the ore, for instance; you might say that the raw materials cost nothing, it is the cost of labor producing them. They are in the earth. Therefore the content of labor enters into the whole thing and therefore prices are not going down; in fact I think they are going to increase moderately."

Mr. William H. Heulings, Jr., Vice-President of the J. G. Brill Company, manufacturers of cars, gave interesting testimony with respect to the use of car trust certificates as a means of facilitating the purchase of safety cars by impecunious companies, and also with respect to the effect of standardizing equipment upon price increases. At page 400 of the Proceedings, he says:

"The Chairman: Is the industry, speaking of it as a whole, having any difficulty in financing its purchases with you?"

"Mr. Heulings: Oh, yes.

"The Chairman: How do they do it?"

"Mr. Heulings: Well, they do it as Mr. Barry just referred to. We are jointly interested with him in the car trust matter. That is how we are being able to finance quite a few of the purchasers of these safety cars and to help the railroads make economies which they will provide them with.

"Commissioner Gadsden: Are you requiring certificates on other types of cars than the safety cars?"

"Mr. Heulings: No. We cannot handle them. You see they are not a standard article. Barring the safety cars we have never duplicated an order. Except in one instance have we ever duplicated an order for exactly the same style as the other order. We built fifteen hundred cars for Philadelphia in a period of four years and they are so nearly the same you cannot tell the difference, but each particular set required a new set of drawings and specifications.

"Commissioner Gadsden: Does not that suggest one of the economies that the railway people could work out, in the standardization of equipment?"

"Mr. Heulings: Unquestionably they could, and they could do us great good and economize.

"Commissioner Gadsden: If we could come out of this hearing by standardizing the railway equipment would not that help solve this problem?"

"Mr. Heulings: You would take a great step in the right direction.

"Commissioner Sweet: How much difference do you think it would make if the cars were standardized instead of having different specifications for each car?"

"Mr. Heulings: I might answer that by the experience of the safety car. The safety car is practically standard. The total amount of advance in the safety car was about fifty per cent, and that was due to the fact it was standardized and we could run them through in one hundred and two hundred car lots and sell them to the individual as he wanted them and practically take them off the shelf. Now other cars have advanced over 100 per cent. That is the best answer."

Mr. Francis H. Sisson, Vice-President of the Guaranty Trust Company, discussed, from the banker's viewpoint, the effects of war prices upon credit. At pages 321 and 322 of the Proceedings, in response to questions asked by Commissioner Sweet, he says:

"Commissioner Sweet: At the time when the 5-cent fare was originally agreed upon, apparently, between the cities and the public service corporations, in the granting of the franchises, that was sufficient pay for all necessary expenses and a fair return upon the investment, was it not?"

"Mr. Sisson: It was.

"Commissioner Sweet: And, in some cases, I suppose, rather a large return?"

"Mr. Sisson: Yes.

"Commissioner Sweet: And that naturally offered an inducement to investors?"

"Mr. Sisson: Yes.

"Commissioner Sweet: So that institutions like insurance companies and people in a fiduciary relation representing an aggregation of comparatively poor people invested in them, because they paid well, and were looked upon as exceedingly safe?"

"Mr. Sisson: Yes.

"Commissioner Sweet: Is that a fact?"

"Mr. Sisson: It is so. The popular selling argument, and one very generally used in those days, was that you could count upon the revenue-producing power of utilities of our great cities more definitely than you could upon any other class of securities.

"Commissioner Sweet: Up to about what time did that condition continue?"

"Mr. Sisson: It existed until about the outbreak of the war. I should say when the recent rise in the cost of labor and materials overtook the revenues—perhaps beginning with 1915.

"Commissioner Sweet: Has the change been gradual?"

"Mr. Sisson: It was rather abrupt. I think it has been staccato, rather than gradual, in many instances, but it has been constant for four years.

"Commissioner Sweet: Is it as great today as it was three or four months ago?"

"Mr. Sisson: No, it is not, although there are still rising costs in labor and there are rising costs in material that must be met in many instances, but the ratio of increase is smaller today than it was before.

"Commissioner Sweet: How do you account for that?"

"Mr. Sisson: Well, largely because the costs of labor and material, both, have almost reached the breaking point, and it was not possible for them to increase ratably as much as they had for the last three years, and still find a market.

"Commissioner Sweet: Do you mean to say, then, that there is an increase up to the present time?"

"Mr. Sisson: Yes.

"Commissioner Sweet: But that the rate of increase has been somewhat less in the last two months?"

"Mr. Sisson: Yes.

"Commissioner Sweet: But that the point reached at the present time is the high-water mark?"

"Mr. Sisson: Yes. Up to this point, yes.

"Commissioner Sweet: In your judgment, what is the prospect for the future?"

"Mr. Sisson: I think you will find still higher costs of material and higher cost of labor. I think we will have to reckon with them for an indefinite period of time."

Yet, there is considerable testimony to the effect that before the war broke upon the world, the causes which I have discussed in earlier chapters of this report were at work. At pages 371 and 372 of the Proceedings, Mr. C. L. S. Tingley, Vice-President of the American Railways Company, a holding concern interested in many different utility properties, testified as follows:

"The Chairman: And the difficulty which now confronts you is due wholly to war conditions?"

"Mr. Tingley: Absolutely, sir, wholly. Well, I would not say to the war conditions, but wholly due to the increase in wages and material, which, of course—

"The Chairman: Which, of course, would not have come without the European war?"

"Mr. Tingley: Well, they were coming before the war came, sir. The war has simply hastened it and aggravated it. Wages were rising and rising steadily, and have for the last twenty years."

Dr. Dugald C. Jackson, consulting engineer, head of the Department of Electrical Engineering in the Massachusetts Institute of Technology and joint author of the book "Street Railway Fares,"¹ expressed the opinion that the fundamental causes of the present street railway trouble antedate the war. At page 1416 of the Proceedings, he says:

"The present situation may be described as a state of public irritation over increasing unit fares for travel accompanied by criticism of the service, and at the same time the railway companies are drifting into bankruptcy caused by the condition of war wages and cost of materials. The unfortunate status of local passenger transportation companies, however, is not wholly war produced. Increased fares have, as a rule, only partially offset increased wage and material costs during the war period, and the trend of the companies to the bad has, therefore, been accelerated by the war, but the trend was unmistakably present before the war, and therefore, it becomes a question of determining what were the causes and whose were the faults."

Again, at page 1420 of the Proceedings, he says:

"The causes, then, which have brought this problem into your hands may be summed up as inherent in the way in which this special business has been dealt with by both the cities and the companies and the war has only exaggerated the troubles and brought more quickly upon the traction companies a crisis which was creeping upon them. This complex, difficult and special problem of local passenger transportation cannot be successfully dealt with without consideration of its distinguishing conditions from ordinary commercial, mercantile and industrial businesses."

Upon this point, at least, Mr. Morris L. Cooke, of Philadelphia, agreed with Dr. Jackson. The war precipitated the present street railway situation, but was not the primary cause of it. Mr. Cooke makes a charge of inefficient management against the electric railway industry. At page 1688 of the Proceedings, he says:

"Our street railroads constitute, broadly speaking, the most completely discredited feature in the administration of a city. The public, remembering not only past wrongs, but having in mind present day inefficiencies, not only takes no interest in lightening the burdens of those who are responsible for the operation of these properties, but seems actually anxious to precipitate the final stages of what may easily develop into a national tragedy.

"In the widespread antipathy to the owners of these properties, and further in the conviction so generally entertained by the public that all adventure has gone out of the street railroad business operated as a private undertaking, this Commission, I believe, will find the greatest obstacle to putting into effective operation such constructive suggestion as it may make.

"Continued adversity might possibly win over the most obdurate and old fogey director to enlightened management and a square deal; but without the hearty cooperation of the public, almost nothing can be done.

"My own impression is that the differences between the public and private interests involved have become irreconcilable. The operators of these properties, and especially their promoters have erred so grievously against the public that, except with isolated properties and where conditions are exceptional no compromise is likely. In most situations with which I am familiar, it would seem to me highly improper that a compromise should be reached on any basis thus far suggested by the private interests involved."

Further on, at page 1689 of the Proceedings, he says:

"It is because those in charge have had their attention centered on financial, rather than on operating considerations that past and present untoward tendencies have not been discounted and offset more effectually."

Again, at page 1690 of the Proceedings, he sums up the situation as follows:

"The present deplorable state of our street railroads was not reached over night, and is not due to any one single cause. If their managers had been on their jobs, these remedial measures which you are now discussing would have been inaugurated years ago.

"The point I want to make is that while the situation has doubtless been precipitated by the war, conditions incident to the war had really very little to do with it.

"The attitude of the owners of these properties is such as to make it very difficult for the public to get at the real facts. Propaganda supporting officially authorized theories of valuation, methods of accounting, principles of management and so forth are carried on in every direction."

And so we find that the war and the high prices having given the electric railway "house of cards" the push that precipitated its collapse, we are led on to the fundamental question of future policies. Shall we take cognizance of the past and put the electric railways of the country upon a new basis, or shall we connive at the building of a new house of cards, a "more stately mansion" that will shut the electric railway industry "from heaven with a dome more vast" than the dome that is now falling about its ears?

CHAPTER XXIII

HOW CAN CREDIT BE RESTORED?

We have seen that credit is necessary to the continued existence and normal expansion of the electric railways as a public utility; and that for divers good and sufficient reasons electric railway credit has disappeared except in isolated spots. We must now face the constructive problem of its restoration.

The issue, as seen by the Committee of One Hundred representing the American Electric Railway Association, is put squarely and frankly by General Guy E. Tripp in his statement at pages 68 and 69 of the Proceedings, where he says:

"The present methods of regulation and control have failed. It requires no argument to prove that. The fact that an industry scattered all over the United States and operating under different local conditions—the mere fact that such an industry is as a whole on the verge of bankruptcy at a time when unregulated industry is at the height of prosperity, speaks for itself.

"The present system of regulation and control is entirely too inelastic to respond to the stress of changing conditions, particularly such as now exist, and they do not permit of the prompt adjustment of the price of the product or the cost of the product. And any method of control or regulation which does not permit of the application of this simple rule will always fail. I have no doubt that this is a fundamental truth which is recognized by everybody, but in the case of electric railways a peculiar psychological factor has been introduced which has hindered the adjustment of electric railway problems.

"The old system of contracts between a municipality and a railway under which the railway agreed for a certain fixed fare to perform certain service raised a popular belief that the performance of a railway service through the medium of private enterprise amounted to giving away public privileges to private individuals out of which enormous profits have been reaped. It has been impossible hitherto to eradicate that idea from the public mind. I do not believe that the relations between municipalities and electric railways can be satisfactorily adjusted upon the basis of a simple contract such as might exist between two individuals or corporations. I entirely subscribe to the theory of state regulation and control, and that theory having been admitted, I believe it is impossible for the parties to stand in simple contractual relations with each other, and the idea should, if possible, be entirely removed from the public mind and a new conception of the functions of electric railways substituted. That concept I believe to be that the electric railway is an agent of the public to furnish it service and for that service it is entitled to a fair and just return upon capital honestly invested in the service and upon conditions which will respond to changing conditions of operation and of finance.

"I think the electric railway industry is facing three alternatives and that the issue will come immediately:

"First is municipal ownership; second, private ownership and operation under a sound fundamental basis of regulation and control; third, complete disappearance of the service. In some cases the service has already disappeared and the tracks have been taken up, but I believe that alternative is unthinkable in large communities except perhaps in part.

"I believe our experience in the Governmental operation of those utilities which are more or less complex in character has not been reassuring, and I further believe that a majority of the people believe in private operation under proper regulation and control."

Here we have the formulation and recognition of the agency theory, which calls for continuous public regulation upon the basis that the agents of the public—the electric railway companies—are entitled to "a fair and just return upon capital honestly invested in the service."

We must not lose sight of the fact that General Tripp's testimony was in

some respects inconsistent with itself. For instance, in his opening statement, quoted above, General Tripp gives his allegiance to state regulation and expressly condemns the perpetuation of the simple contractual relationship between the companies and the municipalities. By inference, also, he condemns the maintenance of a contractual relationship between the companies and the state. Near the close of his testimony, however, he expressed the view, in reply to questions asked by Chairman Elmquist, that the ideal service-at-cost plan would take the form of a contract between the company and the municipality, with an automatic or nearly automatic adjustment of fares to changes in the cost of service. His testimony on this point is found at pages 181 and 182 of the Proceedings, as follows:

"The Chairman: You spoke this morning about establishing a new relationship between the utilities and the public and investors. Of course, that presumes a proper form of regulation?"

"Gen. Tripp: Yes, sir.

"The Chairman: What should that be?"

"Gen. Tripp: Do you ask whether it should be state regulation or local regulation?"

"The Chairman: I am asking you what should be the proper form of regulation.

"Gen. Tripp: If the new contract between the municipality and the company were of such a nature—and I think it should be—that it amounted to a practical guaranty of a fair return upon a fair investment in the property, then it would seem safe to leave the regulation of the local utility to the local authorities who have made the guaranty.

"The Chairman: In your judgment, will the service-at-cost plan result in excluding the states from the regulation of these utilities?"

"Gen. Tripp: It is difficult for me to say, without giving the matter much consideration, what place the state commissions would have in such a relationship.

"The Chairman: Under a proper service-at-cost plan, the rates rise or fall automatically, according to the earnings, do they not?"

"Gen. Tripp: Yes, sir.

"The Chairman: Is there any rule for a regulating commission to exercise judgment in determining the reasonableness of the rate under such plan?"

"Gen. Tripp: No; I should think not.

"The Chairman: That being so, can you see a good reason for having the state commissions given any control over the service of these utilities where the cost of service plan has been adopted?"

"Gen. Tripp: I cannot see any reason now.

"The Chairman: Do you see that they should exercise any control over extensions of the properties?"

"Gen. Tripp: I do not see any reason why they should.

"The Chairman: Or the capitalization?"

"Gen. Tripp: No; the capitalization in that case would be a matter of no moment to anyone except the company.

"The Chairman: Do you believe that the highest quality of service and best form of protection to the public, as well as to the utilities, would be secured through local regulation rather than state regulation?"

"Gen. Tripp: Provided always that there is a relationship which imposes an obligation upon the municipality, which amounts to a guaranty of a fair return on the fair investment, I think a better administration of that relationship would probably lie in the hands of the municipality.

"The Chairman: But it pre-supposes, does it not, the fact that the municipality has the intelligence to properly examine the operating sheet of a railroad to see that the accounts are properly kept, and to clearly understand how to regulate such a utility?"

"Gen. Tripp: It pre-supposes that, but the test comes in the cash-drawer to pay this fair return.

"The Chairman: Well, from the experience you have had in this work, is it your opinion that municipalities, generally speaking, give close attention to the operation of these utilities and the control of their securities and expenses in such a way that the public can safely trust them with that responsibility?"

"Gen. Tripp: I should answer that by saying that my observation is that probably not, under the form of contract, at least, which has been in common use.

"The Chairman: If the service-at-cost plan is adopted, is it not possible that there will be a good deal of irritation between the utilities and the public growing out of a shifting charge for the service?"

"Gen. Tripp: Yes, that might be possible.

"The Chairman: What will that lead to?"

"Gen. Tripp: It will probably lead to municipal ownership if such an irritation did arise that was severe enough."

Mr. Harlow C. Clark, editor of "Aera," the official organ of the American Electric Railway Association, presented to the Commission a careful analysis of the electric railway problem, and submitted suggestions for emergency relief and for the formulation of a permanent plan. He recognizes clearly that local transportation is a public function. At page 897 of the Proceedings, he says:

"The continued furnishing of efficient and sufficient urban and interurban transportation is a recognized vital necessity of modern community life.

"It is recognized to be a function of the government of each state to provide that such service shall be performed.

"Heretofore the custom, with few exceptions, has been that these necessary facilities should be provided by private agencies, with the use of private capital, and subject to such regulations by governmental agencies as would insure that the service should be continuous, reasonable, sufficient and efficiently rendered.

"To provide a service of this character by private capital, it is necessary that the terms and conditions prescribed by the authorities shall make such investments safe and enable them to secure a return which will induce private capital to select investment in the utility to such an extent as will provide the necessary funds for capital purposes. Such further return should be allowed as would stimulate the operating utility to the greatest measure of economy, efficiency and initiative and thus insure the development of the art and the maintenance of the public service at the high standard demanded by the American public; otherwise, private capital will elect to seek other investments, the standard of service will be depreciated, and the maintenance and improvement of these properties will have to be provided for from state or municipal sources, and deficits in operation made up by taxation, or the service permitted to deteriorate and finally terminate. As the last alternative is impossible in modern life, the actual question is:

"Shall the service be provided by the use of private capital, or by the use of public credit and resources?"

Mr. Clark assumes that municipal ownership cannot be immediately adopted as a general policy, and that therefore some plan must be adopted by which private capital will continue to support the industry. At pages 897 and 898 of the Proceedings, he outlines his plan as follows:

"As existing laws and conditions in the different states do not make a general adoption of the principle of municipal ownership or operation feasible at this time, the industry must be conducted by the use of private capital, whatever final policy the public may adopt in this respect.

"This is feasible if the following suggestions for emergency relief and for a permanent plan are followed:

"*Emergency relief.* Such an immediate temporary increase in the charges for transportation (subject to revision by the subsequent permanent plan) as is necessary to meet the present crisis and to prevent that financial disaster which is imminent to a large majority of the industry.

"This would maintain the service during the development and formulation of the permanent plan, by which also any suitable revision in such emergency increase could be made.

"*Permanent plan.* A plan for the permanent conduct of the business, under state or municipal regulation, capable of automatically adjusting itself from time to time to varying conditions.

"The machinery for such permanent plan should include:

(a) The ascertainment of the amount upon which the enterprise should, in fairness and justice to both the investors and the public, be allowed to earn a return.

(b) The establishment by the authorities of a system of charges for service by which rates will automatically increase or decrease above or below the initial rates named in the permanent plan by a defined method and schedule so as to yield at all times sufficient revenue to meet all the payments contemplated by the plan, including such protective reserves as should be established, and also sufficient opportunity for participation in benefits resulting from economy, efficiency and initiative to induce the greatest efforts by the utility.

(c) Power of regulation, either by state or municipal authorities, in respect to all matters affecting conditions and character of service, including extensions, improvements and betterments.

(d) The utility to be conducted on the so-called indeterminate franchise principle and to be subject to such regulation as may be prescribed by law in respect to accounts, to capital investments, and other matters.

(e) The establishment of the right of the municipality or other governmental agency to purchase, as shall be set forth in the plan, which shall in particular establish the price or the method of ascertaining the price.

(f) All special taxes and all special charges and assessments paid by the utility are in fact paid by the car rider, being a part of the cost of transportation. Car riders as a class should not be subjected to such indirect or special taxation and should, so far as the particular circumstances in each community will permit, be relieved therefrom."

Mr. Henry J. Pierce, of Seattle, formerly President of the International Railway Company, of Buffalo, testifying on behalf of the American Electric Railway Association, was one of the few company witnesses who recommended the continuation of the five-cent fare. His solution of the street railway problem was outlined at pages 873 to 875 of the Proceedings, where he says:

"For over a quarter of a century the people who have ridden on street cars have been accustomed to pay the five-cent fare and they have come to believe that five cents is the value and the proper value of a street car ride. And when attempts have been made to raise the fare to six, seven, eight or nine cents the public have resented it, there is not any question about that. I ride on the street cars myself and have ridden on the street cars in cities where the fare has been raised, and I know there is a lot of resentment on the part of the public because they do not understand it. They have been educated along the lines of a five-cent rate. Therefore, if it is a possible thing to keep the street car fare at five cents it should be done. I am inclined to think that it can be done through some readjustment of the relations that now exist and which have existed between the municipalities and the street railroad corporations, and it is along those lines that I wish to convey these suggestions to you.

"I would have the fare a straight five-cent cash fare, no tickets. I would abolish transfers absolutely. I would have the municipalities remit all taxes and I would have the municipalities do the paving. If that is not enough—I think it would be enough in many cases to settle these difficulties, these very serious difficulties which confront this industry—but if it were not sufficient then I would charge an extra five-cent fare outside of a central zone three miles in diameter.

"I would then allow the street car company eight per cent upon its investment, and by its investment I mean its cost in money that it has invested, not in any event to be greater than reconstruction cost, and in that cost I would include as a matter of fairness what might be termed the replacements of obsolescence in machinery and equipment which had been made necessary through improvements of the art.

* * * * *

"Then I would have all money, all further surplus beyond that eight per cent go back into the city treasury.

"I believe that in this way this difficulty would be solved. I believe that the street car companies could finance and refinance their property. I think that they could deal with the bankers. I think that the people's interests would be protected, the investors' interest would be protected and everybody would be treated fairly. I do not think any other way—

The Chairman: The general complaint here for the past ten days is that a five-cent fare will not even pay operating costs.

"Mr. Pierce: Yes.

"The Chairman: How are you going to pay eight per cent on the capital and turn something over to the others with a five-cent fare?

"Mr. Pierce: Through the abolition of transfers, through the abolition of taxes and through the municipality paying for the paving, and if that is not enough, through the five-cent extra fare outside of a three mile zone, Mr. Chairman. I do not think it is right, anyway, for the street car company to pay for paving in the street, because these streets or roads came down to us from the olden times as the king's highway through which the people might ride and walk. The street car is the poor man's vehicle and I suppose 90 per cent of the people who ride on street cars are not well enough off to own horses and automobiles; therefore, they have to ride. But the man who has a horse or an automobile may go through streets without paying taxes. I think it is only fair in any event that the paving should be done by the city.

"Now the only alternative to this to my mind would be for the municipalities to take over and operate the street railroads of the country. That I consider un-American. That I should very much dislike to see.

"I think the function of government is to govern and regulate, not to own or operate public utilities. I have lived in all perhaps ten years of my life in Europe. I have ridden on their railroads which were operated by government or by municipalities, and I tell you

that I have met a good many czars and a good many kaisers on those cars. They do not treat the people with the courtesy that our privately operated street railroads and railways treat them here. It is un-American and I am totally opposed to it and hope we will never see it in this country."

Mr. J. K. Newman, of New Orleans, also testified as a witness for the Electric Railway Association. He was particularly frank in his description of the historical methods which brought the electric railways into public disrepute, and undermined their credit. He was convinced that public opinion would not support municipal ownership as a remedy, and that a service-at-cost plan, with complete guaranties that the companies will not repeat the wrong-doings and follies of their past, is the only solution. His views on the present financial difficulties of the electric railways and the impracticability of municipal ownership as a remedy for their present troubles are set forth at pages 556 and 557 of the Proceedings, as follows:

"Then, we find the roads breaking down under their old system of accounting. We find that they cannot do any financing. We are finding this, too, that when they have to come out from under their old system of financing, there must be established a complete new financial set-up, a complete new process of financing.

"Now, what is going to happen? I have had to do with putting six properties in the hands of receivers. The interest is being cut on all of the bonds.

"The Chairman: During the last year or so?

"Mr. Newman: During the past year, and we have a serious problem, a problem which is far more serious than the public has any idea of, and I believe far more serious than the members of this Commission believe.

"How are we going to get around it; how are we going to solve it?

"Let us talk municipal ownership for a minute. There is a constitutional prohibition in the charters of all of the cities, that they cannot take over the street railways by any system of guaranty, because it is not legally possible.

"The next thing is that they do not want to do it. There was a cry for municipal ownership, but I do not know of a community today that would take over these properties. Why? Because the politician lives on public favor, and the moment the politician attempts to raise the street car fare, the public are against him, and he will lose out at the next election. They do not want to enter into that; so, frankly, I have given up all hope of municipal ownership.

"Mr. Warren: Before you leave that, Mr. Newman, have you any views on state ownership as distinguished from municipal ownership?

"Mr. Newman: No; I never thought of that proposition.

"Mr. Warren: Of course, that would be a possibility with which most of the constitutions would not interfere.

"Mr. Newman: There you are separating the city and state, and I do not dream of that as a possibility.

"I do not believe the people themselves want to put street railways in municipal ownership. They are different from any other kind of public service corporation, for this reason: they have an enormous payroll—40%—maybe 50%, of their operating expenses, and maybe a great deal more than that the way wages are going. It means that motormen and conductors, who have not had the advantages of an education, who are not carpenters or mechanics, and who have to take this class of work—that means not the highest order of education, and they are prey for politicians, and that puts a lot of strength into the hands of politicians. It puts a great big payroll in the hands of the politicians. A water company, a gas company, and a lighting company do not have the same proportion of employees.

"So I do not believe in municipal ownership.

"I would be glad to get relief if we had to lose money and got rid of some of the trouble. Life is hardly worth living with the proposition as it is today, but I think the cities themselves do not want municipal ownership."

Mr. Newman's own plan for the solution of the problem is outlined at pages 557 to 559 of the Proceedings, where he says:

"The solution, in my judgment, is the service-at-cost plus a return on the investment—an ascending fare, or a descending fare, but a fair return on the investment.

"If they choke off the chance of the street railway people and bankers from manipulating the securities again; I do not believe it matters much what the capitalization of the company

is, whether it is high or low. That is not the point. If we got out to make securities, they could be cut down. It can be dealt with by the process of law, but what the people want to know is that an unfair return is not paid on the capital invested.

"When the public is educated to the fact that they are paying a fair return on the investment and not a return on watered securities, they are not going to object to an increase in fares, no matter what it is, even if it should be 10 cents.

"Now, in this position, you have to take the public's point of view, because you cannot look at it fairly if you just go below the surface of the street railway situation, and not analyze the public point of view.

"Suppose we are operating a factory, and we were unwise enough to sell our product at a fixed price for a term of 20 years. What would happen when the raw material went up, so that we could not produce that article at cost? We would go into receivership, and then bankruptcy.

"Now, would the purchaser of that material want to take the factory and run it, or would he say, 'Here, you go on and manufacture your goods, and I want to see that you do not make an abnormal profit out of it.' I think most business men would say, 'You had better operate your factory; I don't want to operate it, especially when you are only getting a meagre return on your investment.'

"And that is what the public is going to say when they are convinced that that is the situation in the street railway business. They are fairly entitled to know that, after we have had the cream of these franchises, and that when the day of reverses passes, we are not going to continue to pay large dividends on the basis of securities. They will insist that we pay only a fair return on the capital property value, and let the securities readjust themselves.

"There is another feature about the financial plan, the securities plan, that I would like to see the Commission adopt, if the Commission should favor the plan of service-at-cost plus a fair return on the capital property value, and that is this, that there should be a condition attached to that sort of an arrangement, by which the securities would be readjusted so that a new system, a financial set-up will be established in order to make it possible for the street railways to go ahead and keep up with the times, to take care of this renewal and replacement fund, which has not been accumulated by a majority of the roads, but which has been an operating charge, just to the same extent as the motormen's and conductors' salaries. It has been taken care of in the past through this ascending prosperity, now blocked, because we have reached the height of the industry or nearly so, and automobiles have come along and have taken the cream off the top. So we are dealing today with this problem of a renewal and replacement which must be inserted in the operating charge at a fixed charge. Now, when you have done that, you have broken down your whole system of finance, because there is not a banker who has played the game in New York or elsewhere who has not adopted the standard of judging a bond by the ability of the company to earn twice its interest charge. When you insert that renewal and replacement charge, notwithstanding all the properties are face to face with that, and it is a much more material thing than we have been thinking of in the past, you destroy its net earnings, and even if you had an open issue of bonds, you could not sell them, unless you had two for one, and, of course, I do not know of one road in ten that can make that sort of a statement today, with a renewal and replacement fund.

"Now, if you do not put it in operating expenses, you have to capitalize it, and you are not allowed to do so by the cities as an operating expense. When you put it into operating expenses, and you want a return, an interest on the fair valuation, 6 cents fades. There is nothing to it, and 7 cents, in many instances, will fade, and will go up to a very much higher standard, and there is no hope of that higher standard unless we have taken the public into our confidence and say, 'We have stopped the juggling of securities; we have stopped consolidation to get out more stock; we have gotten down to an honest system of finance, by which the public will pay a return on the investment, and nothing more, and what you pay you get. If you want a low rate of fare, take the seats out of the cars, and let everybody stand up; but if you pay enough, we will put on Pullman palace cars for you. You shall be the judge of what you want, but whatever you pay you get, and you pay it only to give us a return on our actual investment.'

On the subject of public guaranties as a restorative for credit, Mr. Francis H. Sisson testified as follows, at pages 329 and 330 of the Proceedings:

"Commissioner Sweet: Do you think a guaranty of five per cent on bonds would be sufficiently attractive to investors to meet the needs of the companies at the present time?"

"Mr. Sisson: Well, the guaranty—do you mean by that to limit it to five per cent?"

"Commissioner Sweet: Yes.

"Mr. Sisson: To assure them of five per cent?"

"Commissioner Sweet: To assure them of five per cent, and not more.

"Mr. Sisson: Yes, I think—"

"Commissioner Sweet: On bonds.

"Mr. Sisson: I think the public guaranteed bond on a five per cent offering would be attractive today.

"Commissioner Sweet: Do you think such bonds could be floated at the present time?"

"Mr. Sisson: It would depend a good deal upon the nature of the guaranty, upon the size of the community and the political character of the government. Money rates are higher than that today. Five and a half per cent is the existing rate on money today, and my own judgment is that money is going higher. The demand for capital is so great that it seems to me inevitable that it will be forced up, and that while a guaranteed governmental obligation, like our own United States obligation, can be sold at better than five, it would have to be of a very sound character to be attractive at five, but it would be attractive on a sound guaranty. If the City of New York or the State of New York guaranteed its corporations five per cent, the securities could be sold, and they would be attractive to investors.¹

"Commissioner Sweet: Do you see anything inconsistent with a guaranty, or what would amount to a guaranty of that kind, in the cost of service plan?"

"Mr. Sisson: No.

"Commissioner Sweet: Service-at-cost, I think it is called.

"Mr. Sisson: No, I do not. My own theory is that if we get into the guaranty field, we are encroaching so closely upon the field of public ownership that sooner or later we will step over the line into it, and with an assurance of a reasonable earning power to be distributed by the owners of the roads through fixed charges and labor charges and material charges, in accordance with their own necessities and judgment, is a much more business-like way to leave the situation than to provide for fixed guaranties. But perhaps that is not possible. If it is not, I would approve the guaranty."

Mr. Samuel R. Bertron, of Bertron, Griscom & Company, investment bankers of New York and Philadelphia, favored an immediate increase in fares to enable the companies to keep out of receiverships, and then a fair valuation of their property and a fair return upon that valuation. He was not averse to municipal ownership as an alternative. His testimony on these points, at pages 539 and 540 of the Proceedings, is:

"You are not going to be able to raise money to operate these properties, unless, in the public estimation, their credit is substantial and is going to continue so. A temporary adjustment is not going to help, because people are not going to buy any more securities of street railways in such a temporary expedient.

"Mr. Warren: A temporary expedient might save the companies, while the permanent one was being adopted?"

"Mr. Bertron: It would be essential to increase fares generally, and that should be immediate. Otherwise, most of the remaining ones would go into the hands of a receiver.

"Mr. Warren: It would be a post-mortem, otherwise?"

"Mr. Bertron: Indeed so, but that should be recognized as a temporary expedient pending a valuation of the properties and the granting of a fair return on that valuation by some elastic, easily adjustable, automatic system, and that is what I think should be striven for. You will save many of these companies from receiverships, and enable them to pay at least their bond interest by a 6-cent fare at the moment. That is not going to be enough generally, I fear. Prices rise—

"The Chairman: What fare is that?"

"Mr. Bertron: Six cents.

"Then, the politicians have brought in this question of watered stocks, bonds, and so forth. All of that has passed. It probably was done often in the old days, but everybody should be satisfied with a fair, honest valuation of the property, and in many states rules have been established for making such a valuation. There is a field that I hope you can enlighten the people with reference to, and when you have a fair valuation, let there be definitely a fair return on that valuation, and when that is established the credit of the companies will be reestablished and the service will be able to be maintained.

"Now, to my mind, there is only one alternative—two alternatives. The first is the business going to pieces, and the people not be able to get the service? That means walking. The other is municipal ownership.

"Now, personally, while I may not be in accord with many of my friends, I am not so averse to municipal ownership, as some people are, of these properties.

"The objection to it is that these companies would be run for political purposes. I do not think that that follows at all. A plan can be devised in each municipality, by which the merchants' associations, the banks, the chambers of commerce could cooperate, and have a business board, with labor represented, and they could handle this as a great economical problem and not a political problem.

"Many years ago water companies gradually became municipalized. A great many people looked upon that with a great deal of hesitancy and dread. It has worked well, as a rule, and I do not think, as a rule, there are any politics in it. It has one distinct advantage, and that is that a municipally guaranteed security will be placed at a lower rate than any other,

and therefore the money necessary to maintain these properties can be secured on the lowest possible basis.²

"Mr. Warren: Mr. Bertron, might not that result be served, to a certain extent, if privately owned securities were guaranteed, or substantially so?"

"Mr. Bertron: I think (so), if the valuation were recognized by the public service commission or the city, as the case may be, and approved, as increased expenditures occurred, and a definite return on that capital were assured by the city through an automatic plan, in which the fares would increase if the earnings were not sufficient to pay that, and decrease if they were too high, and act speedily—the great trouble is that they do not act for six months or a year, and then the company is busted, and to restore confidence, it has to be something that moves at once."

Mr. Henry G. Bradlee, of Stone & Webster, in general terms states the alternative methods of restoring street railway credit, as he sees them, at page 209 of the Proceedings, as follows:

"It is not the question of what money is in there so much as it is how are you going to get additional money in order to reasonably serve the public.

"There are only two ways that I know of: One is to go to municipal ownership and have the city or state raise the money on city or state bonds. The other is to establish some plan under which the investor will feel that in the future he may count on a reasonable protection of his invested capital and a reasonable insurance of an adequate return."

Mr. Richard T. Higgins, Chairman of the Connecticut Public Utilities Commission, in suggesting remedies, emphasized the importance of avoiding public ownership, but at the same time looked with favor upon the exemption of street railway property from taxation. At pages 1108 and 1109 of the Proceedings, he says:

"I think it is universally conceded that the situation which most all of the American street railways are in today, is exceedingly serious, and unless some immediate and substantial relief is afforded, many of the companies will fail, street railway business will be suspended, and the public will suffer the loss of a utility which affords a necessary means of transportation.

"It is not so difficult to diagnose the ills as it is to prescribe the remedy. I presume your honorable Commission has listened to many suggested remedies, and I cannot expect to add any new thought, but to my mind the relief must come primarily from the states and the municipalities where the different companies operate, and must be governed somewhat by local conditions, but should involve a material increase in rates, a reduction or suspension of taxes, substantial relief from state and municipal obligations pertaining to street pavements, bridges, etc., a liberal policy of regulation, and a similar policy of public regulation and taxation over competing transportation agencies such as public service automobiles or jitneys.

"In the solution I would avoid if possible public or government ownership or control, or any policy which takes away from the companies the initiative and incentive which have been the great impelling factors in the wonderful growth and development of our country.

"Street railways afford the principal medium of the industrial short-haul traffic. The trolley car is the poor man's means of transportation, and its only revenues are provided by the car riders, who ride as a matter of public necessity, not as a matter of personal pleasure. Under present conditions there is just as much if not more reason for relieving the trolley companies from the burden of public taxation as there is, for example, to exempt from taxation large private and heavily endowed colleges and other institutions of learning."

Mr. Homer Loring, Chairman of the Board of Trustees for the public operation of the Eastern Massachusetts Street Railway Company, rather timidly suggested that the Massachusetts trustee plan of continued private ownership and public operation may furnish a satisfactory temporary solution. His apology for it is found at pages 1650 and 1651 of the Proceedings, where he says:

"Regarding the public control, I believe that it may be a step in between the private control, as we have had in years gone by, and public ownership which we may have to face in the future.

"I think by state-appointed trustees it offers the reasonable certainty of careful economical management, particularly if removed from politics, and I believe that the public trustees can, in time, get the complete public confidence and I believe it has a great deal to favor it. Of

course it has not been of long standing, and I appreciate it, as Mr. Gadsden said, that the public was very much irritated in Boston over the ten-cent fares which they did not really think possible, and there has been an inclination to blame the trustee plan for the ten-cent fares. But they are not to blame in any way except probably if it had not been for the trustees, the Public Service Commission would have held the fares down and the company would have gone into the hands of receivers. I think that probably would have been the result; because it had to be done and done very, very promptly."

Further on, at page 1653 of the Proceedings, Mr. Loring expresses his dislike for public ownership as a present program, as follows:

"I should dislike to see public ownership tried at present. It presents a great many difficulties. In the first place, is it going to be state ownership or is it going to be municipal ownership?"

"Our lines are a tangled net work of lines, and if the cities were allowed to own it, very serious complications would ensue.

"I fully believe that the present plan that is being tried has all the advantages of public ownership, with the possible exception of the fact of a lower interest rate that might be obtained if they were all direct obligations of the state. Outside of that, however, I think it has the advantages of public ownership. The state is justified in advancing money to make improvements, and of course, it does assure, if the Commission is carefully selected, absolutely non-partisan management. I should be very much afraid to see the cities own their lines, and I should dislike to see the state own it at the present time."

On the other hand, Mr. Frederick J. McLeod, at that time Chairman of the Massachusetts Public Service Commission, looked upon public ownership as the probable ultimate solution of the problem, and was not at all dismayed by the prospect. At page 1451 of the Proceedings, he says:

"It may well be that the ultimate solution of the street railway problem must be found through public ownership. No other method offers any reasonable prospect for the restoration of the companies' credit, which is necessary to provide needed capital. The figures presented to your Commission, indicating the decline in the street railway riding per capita, emphasize the fact that, with the growth of motor transportation, street railway service is no longer a public necessity to the same degree as heretofore. The street railway is no longer in undisputed possession of the field of urban transportation, and the possibilities of profit are correspondingly curtailed. While no other agency of transportation yet devised can supplant the street railway company, and the retention of street railway service is vital in public interest, it is extremely doubtful if the street railway, under present economic conditions, can be supported wholly by private investment; as a matter of abstract theory, private operation may have many advantages over public operation, but where a public utility must be retained in the interest of public service rather than as a possible source of profit and where private capital continues to occupy the field only in the hope of salvaging the investment already made, recourse must be had to public credit if adequate service is to be retained."

At page 1452 of the Proceedings, he refers to public operation in Massachusetts under the trustee plan as follows:

"Massachusetts, as already pointed out, has already embarked upon the policy of public operation for about half the street railway mileage of the state through the lease rather than the purchase of street railway properties. While this experiment has, up to the present time, not proved in all respects as successful as was hoped, there is, as far as I can judge, absolutely no public sentiment whatever in favor of a reversion of the properties to the old system and in so far as there is agitation for change, it is directed towards the outright purchase of these properties."

Mr. John A. Beeler, transportation engineer, and formerly general manager of the Denver Tramway Company, was not averse to the service-at-cost plan with private ownership or to public ownership under proper conditions. His contention was that the electric railway problem is, in the main, a matter of financing and management. At pages 1677 to 1679 of the Proceedings, he testifies:

"The Chairman: You are familiar with the cost of service plan?"

"Mr. Beeler: I am more or less familiar with the plan, yes."

"The Chairman: Do you believe that affords a solution of the street car question?"

"Mr. Beeler: I think as a whole it is a good plan.

"The Chairman: Does it afford a solution?"

"Mr. Beeler: I think it may.

"The Chairman: Under what conditions?"

"Mr. Beeler: I think it is largely a question of management.

"The Chairman: Has it been tried out long enough in this country to warrant the assertion that it will solve the street car problem?"

"Mr. Beeler: No, I could not say that it has been. I do not believe it has.

"I think that the whole street railway situation, whether it is municipal ownership or private ownership or state ownership, as it seems to me, is right now a question of management and financing.

"If municipal ownership will finance a line and will provide equally competent management, then municipal ownership would be a good thing.

"On the other hand, if private capital and private ownership can continue to finance and manage the line that would be the proper thing.

"It seems to me that it is largely a question of management and cooperation with the public.

"In order for any management to be successful, they have got to employ all of these operating economies and the principles of salesmanship, and recognize the fact that cars wear out and that people will not ride in them—that they want a change. I think, regardless of whether the state owns it or the municipality or the private company, that these fundamental principles have got to be recognized and provided for.

"The Chairman: Have you reached any conclusion as to whether municipal ownership will give a greater guaranty of good service and a larger facility to investment than private ownership and operation?"

"Mr. Beeler: I think that is simply a question of individual opinion. It might, under certain circumstances. Municipal ownership or state ownership would have this advantage: The money for financing could be obtained at a lower rate of interest, and could be readily obtained. To my mind that is the only advantage that I can see for municipal ownership or state ownership.

"Commissioner Gadsden: Is not that the greatest question before the street railroads today—getting new money?"

"Mr. Beeler: It is; but I think the greatest question before us today is a question of policy. If they are to continue to operate on the same policy that they have in the past, if they get the new money, they will be in the same shape again in a few years; and the successful companies today are those that have been rehabilitated in the past few years. They have had new plants, new equipment and are operating successfully, most of those companies, on low fares—the five-cent fare. Some of those companies have provided for this; they have provided for the new capital in different ways. However, in whatever manner they have provided for it, they are operating more economically today than the companies that have not been rehabilitated.

"So that it seems to me that a comprehensive plan providing for rehabilitation of the properties, other than making of repairs must be adopted before the street railway industry will be financially sound.

"The Chairman: Assuming that the public can purchase capital more cheaply than the private company, do you believe that the difference is substantial enough to really affect the substantial operation of the industry?"

"Mr. Beeler: Given the same efficient management, the saving in interest would be very substantial. With an average of four dollars invested per dollar of business—that is the trouble with the street car business; it requires such a high investment to do business—the average company, surface street car company, with four dollars invested must provide, at six per cent, 24 cents out of every dollar to pay its interest at six per cent. Now if the municipality could borrow that at four per cent, there would be 16 cents against 24 cents, a saving of 8 cents on every dollar, which would make a tremendous difference in the operating ratio, but it would not take very long for an inefficient management, that was careless, or that was favoring certain sections of the city, to throw away that eight cents on each dollar."

I have already referred to Mr. Roger W. Babson's proposed remedy—the removal of all rate restrictions. Mr. Gaylord C. Cummin proposed public partnership with a sliding scale of dividends affected reciprocally by increasing or decreasing fares. Mr. Taft and others proposed a zone system of fares. Lieutenant Colonel Charles W. Kutz, Chairman of the District of Columbia Public Utilities Commission, advocated public ownership of the tracks and roadbed coupled with company ownership of the equipment. Mr. William C. Bliss,

Chairman of the Rhode Island Public Utilities Commission, put his solution of the problem in a few words, found at page 1191 of the Proceedings:

"But the ultimate remedy," says he, "has got to come from relief from taxation, the rates at the highest reasonable point you can put them, and the rest in the form of a subsidy on the part of the municipalities served in proportion to the service rendered."

Several witnesses expressed the belief that public ownership would be inefficient and expensive; a few used much stronger words; one or two even raised the bogey of Bolshevism. But no witness took the position that it would be better for the people to walk than to be transported by municipal street cars. The general consensus of opinion was expressed by Mr. Harold L. Stuart, the Chicago investment banker, who said with admirable simplicity at page 195 of the Proceedings:

"I take it that the street railway corporation is a necessity, and if it is not operated under private ownership, then it must be operated under public ownership."

CHAPTER XXIV.

THE PROS AND CONS OF PUBLIC OWNERSHIP

In the preceding chapter, in presenting the suggestions of various witnesses for the restoration of credit, I necessarily quoted a good deal of discussion with respect to the merits of public ownership. In particular, Mr. Henry J. Pierce denounced it as "un-American"; Mr. J. K. Newman said it would put too much "strength" into the hands of politicians; Mr. Samuel R. Bertron said that a plan could be devised to handle it as "a great economical problem and not a political problem," and Mr. Beeler pointed out that if the management was equally efficient, public ownership would have a great advantage over private ownership in the matter of the cost of capital.

We must now present more fully the widely divergent views of the witnesses on the subject. Public ownership represents so radical a change in the status of the electric railways, that we need to pause and look the proposition over in its fundamental aspects before we discuss its effectiveness as a remedy for the particular ills which we are here concerned with.

Ex-President Tait, in his opening statement to the Commission, at page 4 of the Proceedings, says:

"I am personally much against government ownership, for the reason that I think it reduces the economy of operation, and therefore greatly increases the cost of something that is essential to the people."

And further on, at page 5 of the Proceedings, we find him saying this:

"You are met, of course, by the statement—and I do not wish to escape the force of the argument—that these transportation facilities are in the nature of roads. The public spends a great deal of money in keeping roads in condition, and those who do not have vehicles do not use the roads. It is contended that these electric railways only fulfill a function of the same kind, and that therefore the public ought to meet the deficit by taxation; and if it does, it will naturally take over the management.

"My feeling in respect to the general loss that is certain to be involved in public operation still makes me hope for some other solution than that of government ownership."

Mr. Francis H. Sisson sees political and economic tragedies ahead, if public ownership of transportation lines proves to be inevitable. He agrees with Mr. Bertron that municipal ownership of water supply has been "efficient and desirable," but does not draw from this fact the same conclusion, namely, that a way could be found to make public ownership of street railways efficient, if the business interests of the community would put their heads together to that end. Mr. Sisson is willing that the companies should be subject to strict public control, and he is not quite sure that public ownership, as dangerous as he thinks it to be, may not be inevitable. His testimony on these points is found at pages 336 to 338 of the Proceedings, as follows:

"Commissioner Meeker: Well, do you think that the regulating body should have decision as to when extensions should be made, when and where, and when and where new lines should be built?"

"Mr. Sisson: I do, providing the arrangement is such as to furnish the credit by which those extensions can be made. In other words, I feel that if the regulating bodies are going to get on top of these utilities, they must get underneath them, too. If they are going to fix their earnings, they must also establish credit.

"Commissioner Meeker: You spoke a moment ago about the desirability of having a definite single authority. Does that squint towards public ownership? Is it possible to have this public interest on top and underneath private companies in the street railway business? Is it possible to work out any scheme of cooperation there, or is it best to give up the attempt and go back into public ownership?

"Mr. Sisson: Well, that is a very vital question. * * * It is my hope and belief that it would be possible to work out a plan of regulation, which does not necessarily imply public ownership, but I am not entirely sure that it is. I frankly say that.

"Commissioner Sweet: You think it ought to be tried first, anyway?

"Mr. Sisson: I think it should be the first attempt, that we ought to do everything possible, before we reach any conclusion that public ownership is inevitable, because in my mind I believe that political and economic tragedies would follow public ownership in this country; that would be very disastrous.

"Commissioner Meeker: With minimum and maximum earnings practically guaranteed, what better would be private ownership under such a scheme than public ownership and operation?

"Mr. Sisson: Well, you would avoid the chief objection to public ownership and operation, which is political ownership and operation, which inevitably piles up cost and reduces efficiency, and can show you a long record of inefficient operation and multiplying costs, which would have to be borne by the public and would be disastrous to the public interests, as well as to the private interest involved.

"Commissioner Meeker: You are speaking of publicly owned and operated lines now?

"Mr. Sisson: Yes.

"Commissioner Meeker: In what communities?

"Mr. Sisson: Well, broadly speaking, in eighty-five or ninety per cent of the communities that have tried it. There are some exceptions, sir, but the whole record of public ownership and operation of public utilities has been that of multiplying costs.

"Commissioner Meeker: You are speaking of public utilities in general now?

"Mr. Sisson: I am speaking of public utilities in general now, but it would apply in equal degrees to the street railways, and perhaps in a greater degree to them than to some others.

"Commissioner Meeker: Why should it apply to the street railways in a greater degree?

"Mr. Sisson: Because of their close contact with the public. Water power does not come in such close contact in the same way.

"Commissioner Meeker: It is easier to move water than it is to move an electric car.

"Mr. Sisson: Yes, and there are not all the causes of daily irritation and delay.

"Commissioner Meeker: It is nowhere nearly as complicated.

"Mr. Sisson: No.

"Commissioner Meeker: You were not speaking of the experiments abroad, were you?

"Mr. Sisson: Well, I was, throughout the world.

"Commissioner Meeker: Throughout the world?

"Mr. Sisson: Yes. There are some exceptions abroad, but those exceptions are, for the most part, marked by reasons that make them exceptions, that are very obvious.

"Commissioner Meeker: You expressed some doubt about the winning out of this co-operating scale between the public and private corporations?

"Mr. Sisson: No; I should not say a doubt—a mental reservation. I said I hoped and believed it was possible, but I was not entirely sure.

"Commissioner Sweet: Let me ask one question or two there, Mr. Meeker.

"Have you found objection to municipal ownership of the water supply?

"Mr. Sisson: Not extensively; no. There have been instances of objection, and instances of marked failure on the part of the municipality, but, on the whole, I think the ownership, the municipal ownership, of water stations has been efficient and desirable.

"Commissioner Sweet: In addition to the points referred to, is it not true that the relationship between public health and the water supply is so direct that the city ought to have control of the water supply?

"Mr. Sisson: I am inclined to think that that is true; yes.

"Commissioner Sweet: Is it not also true that the need of water in public parks and cemeteries and for fire protection is a further reason for municipal ownership of the water supply?

"Mr. Sisson: Yes.

"Commissioner Sweet: And those are arguments that would not apply to street railways?

"Mr. Sisson: Not at all. It is a different form of service entirely."

Mr. Frederick B. DeBerard, Director of Research for the Merchants Association of New York, and a member of the Public Utilities Committee of the

United States Chamber of Commerce, was a witness on behalf of the American Electric Railway Association. At page 876 of the Proceedings, in response to a question by Mr. Warren, he says:

"I have given particular attention to the relative merits of private and commercial operation of all classes of public utilities, the principles which govern them all being substantially identical and conclusions that may be reached as to one will apply with practically equal force to all the others."

Mr. DeBerard's conclusions and those of the Merchants Association were embodied in two reports. The first was issued by the Association in November, 1916, and was entitled:

- "1. Opposing Government Ownership and Operation of Public Utilities.
- "11. Advocating Exclusive Regulation of all Railroads by the Federal Government."

The other report was dated January 23, 1919, and was entitled "Report of Special Committee on Government Ownership and Operation of Public Utilities." Copies of these reports were filed by Mr. DeBerard with the Commission in connection with his testimony. For the purposes of this analysis, it is sufficient to quote a few paragraphs from the report of January 23, 1919, showing the conclusions of the special committee, of which, it should be observed, Mr. Francis H. Sisson was a member. At pages 8 and 9 the report says:

"Movements for state or municipal ownership and operation of local public utilities are in progress in various quarters. These in general contemplate the ownership and operation by municipalities of street railways, electric light and power plants, gas plants and telephone plants.

"Thus it is proposed that private enterprises be excluded from the fields of transportation, communication, light, heat, and power, and that the functions belonging to those fields hereafter be performed by immediate governmental agencies.

"Except under war conditions the sole plea that can be advanced to justify the operation by governments of public utilities is that governments can provide better service at less cost to the public than can private operators—that is to say, the assumption that government operation is more efficient and less costly than private operation.

"We do not believe that this contention can be sustained. On the contrary we contend that the operations of governments in the economic field—and particularly under American conditions—are generally characterized by inefficient management and excessive cost; so that under government operation the public would get poorer service and pay more for it than under private operation suitably regulated by public authority.

"The cause of inefficient management and excessive cost when governments undertake economic activities is simple. All the activities of any government are necessarily carried on by political machinery and that machinery is wholly unsuited to the economic field.

"The fields of politics and economics are dissimilar and separate. The field of politics (meaning thereby the art of government) is mainly the regulation of conduct and the protection of rights. The field of economics is the production and utilization of material things. The principles, the methods and the machinery of political administration are wholly different from those of economic activities and not adapted nor adaptable to the latter. The differences are fundamental and cannot be reconciled."

Again, at pages 30 and 31, the following summary and conclusions are set forth:

"The principle of political selection whose application is inevitable, produces an inferior personnel, lacking the experience and sound judgment necessary to the proper conduct of business affairs, with resulting inefficiency, waste and excessive cost.

"The financing of economic undertakings can seldom be properly provided for under government control for reasons stated above. By reason of inferior management and insufficient financing, government properties are likely to be insufficiently maintained, be subject to excessive deterioration, and generally fall short of the standards essential to adequate service.

"While we are not unmindful of the defects that not infrequently characterize the operation by corporations, of public utilities, we do not believe that those defects can be cured by substituting another method which in every respect of efficiency is much below the standards that generally prevail under private management. In so far as the evils which are popularly assumed to exist in private management are found to exist in fact, other remedies than the substitution of methods abounding in greater evils should be found.

"We believe that the public can best be served by utilizing the efficiency, enterprise and energy of private corporations for the continued operation of public utilities, under such public control as shall protect the public in its right to efficient service and fair rates; and at the same time assure to private capital invested in public utilities a fair return upon such capital.

"We do not find any change of conditions resulting from the war which warrant or require the previous position of the Association, in opposition to government ownership and operation, to be modified.

"In our analysis of the question we have dealt mainly with principles which are of universal application and of continuing force; those principles apply without qualification to all of the varied classes of undertakings which it is proposed shall hereafter be operated by governmental bodies, and to all of those undertakings the disabilities we have outlined apply. The controlling consideration is that political control, operating through political methods, is destructive of economic efficiency and therefore such political control should not be applied to undertakings of an essentially business nature."

Notwithstanding his opposition to public ownership, Mr. DeBerard was willing to admit the essential character of street railway service. His testimony on this point is found at page 877 of the Proceedings, as follows:

"Mr. Warren: Have you given any attention to the subject of the importance of street railways to the prosperity and development and health of communities?"

"Mr. DeBerard: The Merchants Association has given attention to that subject but has not made it the subject of specific study except in so far as it relates to the industrial prosperity of the city of New York, and it has examined into the question to some extent with relation to other communities to supply instances for use in our study of that subject in New York. The general situation developed as to that is along these lines:

"That fully efficient local transportation is essential to the welfare both social and industrial of any community. It is essential to the social welfare of the community that its population be not extremely congested but that it be distributed over a reasonably wide territory; for several reasons, both for the sanitary and social well-being of the inhabitants, and likewise for the industrial prosperity of the business enterprises that are located there, in order that they may be located in the outskirts and at the same time have reasonably cheap and regular and efficient transportation for their working people to reach their places of employment.

* * * * *

"So our general conclusion on that subject, although as I have said it has not been the subject of a special report—our general conclusion in connection with our study of general conditions was that efficient and regular and cheap urban transportation is indispensable to the welfare of any growing community."

Ex-Governor Eugene N. Foss, of Massachusetts, had appeared before the Commission earlier on the same day when Mr. DeBerard appeared. Their testimony was a good deal in the nature of a debate on the merits of public ownership. Governor Foss was for it, strongly and without qualification. He testified as an individual, but as one who had long been an extensive holder of street railway securities. At page 791 of the Proceedings, he says:

"I have been and am still a large holder of street railroads and quasi-public corporation stock. I have been a great believer in quasi-public corporations. I have been a director in many street railroad corporations in Massachusetts and also in New York, in the two leading systems of New York, the Brooklyn Rapid Transit and the Manhattan Elevated, and I have been more or less acquainted with this class of investment and have followed it for a good many years.

"I have come to the conclusion, somewhat reluctantly I admit, that public ownership is the only true solution of this railroad question, whether it be the railroads or the electric railways. Of course, private ownership is out of the question. Private ownership with public regulation has fallen down. There is nothing else left in my judgment except public ownership and operation, or else public ownership with private operation. Private ownership and public regulation is wrong in principle. You never can make it work successfully. The man who owns these properties has got to run them.

"Now, I am interested in this proposition primarily because it means a better democracy, and we have got to democratize our transportation system in this country. That is the first thing we have got to do. And then we have got to democratize our industries to a greater extent than they have been; otherwise we are going to be in the condition that they are abroad in some places. So I say primarily I am for this thing because it means a better democracy."

Mr. Foss comes strongly to the defense of public initiative and efficiency, and, at page 792 of the Proceedings, cites the experience of Massachusetts, as follows:

"We have had cases in Massachusetts, for instance our metropolitan water system, if you please, created twenty-five years ago, in which a commission, a non-partisan commission, appointed by the Governor, has spent forty millions of dollars on a water system for Boston, one of the best in the country. It gives us the cheapest water. That commission paid off twenty millions of dollars indebtedness today, and we will have it all paid off, and there has not been a word of scandal about the management, no graft or anything of that sort. I had no trouble when I was Governor of Massachusetts for three terms to find the best patriotic men in the state to take these government positions. It fell to my lot to rebuild the court of Massachusetts, both branches, and I did not have any trouble about getting the best men in the state at the very moderate salaries paid by the State of Massachusetts to its judiciary, no trouble about it at all.

"It is a reflection upon our intelligence and upon our business capacity. I am not willing to admit that the Post Office is not well handled, economically and efficiently handled. I know you can put a package in the mail in Boston and get it here to Washington quicker than you can by express. I am not going to stand for that sort of thing. We can do just as efficient work under government ownership as we can do any other way, no doubt about it at all."

At pages 794 and 795, Mr. Foss takes up the question of politics in street railway management. He says:

"I know that I could work out a plan and I could find a body of men in Massachusetts or any other state in the Union honest and patriotic enough to conduct these street railroads just as honestly and just as fairly and just as economically for the state as they could for the Standard Oil Company or any other organization there is in the country. There is no reason why our young men and boys should not work for the state and government just as efficiently and just as honestly as they would for any other corporation. And it is a great mistake not to admit it. I will not admit for a single moment but what when we get government ownership in this country as we are going to get in my judgment, and we ought to have it, as applying to all these railroads, you are going to see marked and wonderful economies in all respects. The public cannot get a square deal through a private corporation, even if it is publicly regulated. It cannot do it, it is utterly impossible. And I do not see, as I say, any other solution.

"The people say, 'Oh, we must keep these railroads out of politics.' Good heavens, have they not been in politics? Are they not in politics? They have been in politics for fifty years. What did I find on Beacon Hill in Boston? I found out that the greatest lobby of the state was maintained by the quasi-public corporations. The king of the lobby, who was employed by the Boston Elevated Railroad, received a salary of \$25,000 a year. One corporation paid that amount for one man, and he had a train of followers. And it is the quasi-public corporations who have done more than any other force in this country to debauch legislatures. They have made legislatures and unmade legislatures and unmade men. They have created the legislatures. Now what we have to do is to take these street railroads over and keep them out of politics. That is what we have to do. We have got to take them over to keep them out. That is the proposition as I see it."

Mr. DeBerard closed his personal testimony at pages 880 and 881 with a reply to Governor Foss, insisting that politics would vitiate public management of public utilities. He says:

"I do not think that Governor Foss' assumption that government ownership is going to effect a cure for any evils whether real or imaginary, is correct. On the contrary, it is going to create a new class of evils. Whether under government ownership or private ownership, the operation of a street railway is a business undertaking as distinguished from a political function, and whether under private or government ownership, it must be subjected to the same rules that prevail in well managed business undertakings. It must meet all economic costs that are involved. The public must pay those economic costs in one form or another. So the question to be considered is whether those economic costs will be less under government ownership than they will under private ownership; whether government ownership will produce equal or superior efficiency; whether it will produce equal or superior economy. And the result of my study as to the application of the principles that govern both cases is that government ownership will inevitably and unescapably result in greatly increasing the economic costs of operating the business propositions that are under consideration.

"The Chairman: Have you set forth your conclusions and the reasons upon which you base them in this pamphlet of yours?"

"Mr. DeBerard: Yes, I have analyzed the question with considerable fullness there and have given such illustrations as are pertinent to the subject. There are other illustrations, however, which could be adduced which will show the uniform inefficiency of government agencies when they undertake to conduct economic undertakings, by reason of the fact that the methods that are inherent in political government and which are perfectly sound when applied to political government do not apply, are not adapted and cannot be adapted to the necessities of economic undertakings. Waste and inefficiency to a high degree are inseparable from government ownership, primarily by reason of the method of selecting the personnel. And it comes down to a question of management, and under the methods of political selection the personnel to which the management is entrusted is not and cannot be as efficient as that of private management, the reason being that the motives that govern the selection are different in the case of private management. Those motives result in the retention of the highest capacity, of trained skill, of experience, of long, careful and constant contact with the particular industrial problems that are concerned and the bringing to bear upon those of the highest attainable degree of professional expert ability; whereas in the case of government selections, other motives always enter into the selection. I venture to say that Governor Foss would not apply to the management of his own private business the method of selection that he applied to the selection of the Public Service Commission of the State of Massachusetts. If he did so apply it he would not be running a factory but he would be seeking a job."

And yet the Public Service Commission of Massachusetts appointed by Governor Foss was charged, not with the operation of transportation systems, but with the regulation of the private companies, which everybody but Mr. Babson regards as absolutely essential in case the system of private ownership and operation is continued. Mr. DeBerard did not explain how politicians can control the private corporations any more successfully from the public point of view than they could operate the utilities.

Interstate Commerce Commissioner Eastman approached the subject of public ownership from a constructive point of view. He looks upon it as a policy to be worked out. At page 2070, he says:

"I regret very much that the discussion of the question of public ownership has so often been enshrouded in a veil of prejudice, prejudice on both sides.

"It seems to me that too often one side regards public ownership as an unmitigated evil, and forerunner of Socialism, Bolshevism and various other evil things that may happen, and on the other side it is regarded as a cure-all, or panacea for all the ills of humanity. Between two opposing points of view of that sort, of course, we can have no sane discussion of the question.

"It seems to me that in the present instance the question ought to be approached in this way: Here is an industry which is essential and vital to the development and growth of the community. It is performing a public function which has got to be performed. Now, if the industry has ceased to be a field for private investment, obviously the only alternative that you have is some form of public ownership; and instead of denouncing that possible remedy and dismissing it as the breeder of all sorts of evils, you ought, instead, to attempt to analyze the dangers which may possibly inhere in it, and attempt to find some remedy for those dangers.

"I am by no means convinced that it is impossible to find such remedies. I am stating that mildly. I am of the opinion that they can be found, and I am of that opinion because of this saving factor: That street railway service is so important to every element in the community, not only to the general public but also to the business interests, it is essential that it should be operated efficiently and economically, even more essential to the community at large than it is to the owners of securities in the private corporations, because they can often get their return by increasing rates rather than by efficient and economical operation."

Further on, at page 2071, Mr. Eastman points out some of the possible methods of overcoming the alleged difficulties of public operation. He says:

"Public ownership does not necessarily mean public operation if you do not want to have public operation. Personally I do not fear it, but if you have public ownership it is entirely within your power to say that you will delegate your management to certain groups of citizens who are not under the control of politics. You may say that the management shall be in the hands of chambers of commerce or improvement associations or labor unions

or various other representatives of the community. There are all sorts of possibilities, in other words, which ought to be considered, and given constructive thought, which bear upon the possibility of avoiding the dangers which are believed to be inherent in some form of public operation."

Mr. Grenville S. MacFarland, of Boston, who, as the transportation adviser of Mr. William R. Hearst and the Boston American, participated prominently in the conferences that preceded the adoption of the Boston Elevated Railway plan of public operation on a service-at-cost basis, gave the Commission his views of the street railway problem. At page 1342 of the Proceedings, he says:

"It seems to me that this problem involves fundamentals, and not details, and that it is going to be solved by the social and political prejudices that are involved in it rather than by a scrutiny of the history of the companies, and of the financial transactions behind the companies, except so far as a consideration of the history of those transactions has already given us points of view.

"I think that it resolves itself into two fundamental and divergent plans of relief: one the so-called cost of service, with government relief immediately by extension of credit and indirectly by increase of fares; and the other by practically the same methods temporarily, but with a fundamental change in operation and in the character of ownership; that is, public ownership and operation."

A little farther on, at pages 1342 and 1343 of the Proceedings, he indicates that in his opinion public ownership, even with some economic waste, would be better than the continuation of private control. He says:

"Now, Professor Fisher gave us an educated guess as to what the condition of prices, what the price level in this country was to be in the next few years, at least during the period beyond which this discussion will not relate; and he said that the prices will not go down. That means, of course, that there is not any remedy which the railroads can perceive which will help them that does not involve an increase in their revenue. I think that is to be accepted as a fundamental proposition. They have got to have an increase in their revenue in some way. The question is whether they are to have it under the old private management, and with what I personally believe to be its very, very serious evils, evils that are not only serious economically and financially, but still more serious politically.

"Personally I would rather see the community suffer some loss, some economic loss, on the assumption that the opponents of public ownership and operation are right, that public operation would involve some economic waste, some inefficiency. I would rather see that loss occur than to see continued the old practices of the public utilities under private management, which I think are inherent in the situation, as they are based upon human nature in its operation upon the relations of men performing a public function for private profit.

"I do not think there is an example in the world, from the most ancient records in the Old World and in the ancient times, down to the present day that does not show an abuse which indicates the inherent difficulty in attempting to make a private property out of a necessary public function."

Mayor James Couzens, of Detroit, took the view that local transportation is primarily a social problem. This idea is quite fully developed at pages 1137 and 1138 of the Proceedings, where he says:

"During the last street car strike the great pressure that was brought to bear upon the local administration to settle the strike on some terms was by the men who never use the cars at all. So you see that they were not interested in the starting of the cars from the standpoint of their personal convenience, but purely from the standpoint of their business. Every one of these men used motor cars and had absolutely no use for the street cars as a personal service, but simply to bring the customers to their stores, or to take their workmen to the shops. I believe unless this question is solved on the social basis, the time will arrive when it will be the duty of the manufacturer to go and get his help and send it home, because help cannot continue to put up with the congestion and the embarrassment and the inconvenience that they now have to put up with in urban transportation so far as it is applied to Detroit.

"Now, men will say, and I think properly say, if the men who exerted such a great effort at the last strike to have it settled, if they display such a great interest in urban transportation when they do not use the service themselves, the men will recognize, and I believe you will recognize that it is, therefore, a social problem in which these men are most widely interested who have nothing to do with riding on the cars themselves.

"So that that brings up the question as to whether or not the upkeep and maintenance of a transportation system should at all times be borne entirely by the car rider.

"I am convinced that up to a certain point the car rider should pay for the service; but beyond a reasonable point the community benefiting by it should make up any deficit.

"I believe there are many ways that these burdens above cost of the fares might be borne in part, probably, by the suggestion offered by Mr. Ingram as to the lines being paid for by the property directly benefited, if it is in newly developed territory. But if it is for the service of the manufacturer and the merchant downtown, or the big office building, then, it seems to me that they should bear a part of the burden to get their employes to and from their place of living in a comfortable and decent manner.

"We have long passed the point where our individual health is a question of our own concern. The public has recognized all over, now, that your health and my health is a matter of public concern; and whether we ever have diseases or not, we pay to reduce the death rate. We pay to collect the garbage, we pay to protect the health of the community, whether we have incinerators to burn our own garbage, or not. And it is as much a community problem to carry citizens in a comfortable and decent manner to and from the places they want to go or have to go as it is to collect our garbage or clean our streets or furnish our schools or preserve our health; and if that is recognized, which I believe it will be soon, if it has not reached that point yet, we will then recognize that is a service which the community must furnish for itself.

"I venture to predict here that there will be no other solution of the urban transportation problem until it is put into the hands of the municipality itself, by purchase and operation."

Further on, Mr. Couzens discusses the problem with Commissioner Sweet from the standpoint of human nature, the selfishness of politicians and the compelling power of contact. At pages 1154 and 1155 of the Proceedings, we find the following:

"Commissioner Sweet: I am working on the theory that human nature is pretty nearly the same the world over, and was away back in the time of Christ as it is today.

"Mr. Couzens: And there has been no improvement?"

"Commissioner Sweet: Yes, there have been improvements, but at the same time there are a great many selfish politicians who, when there is a conflict between their interests and the interests of the public will decide every time for themselves, is not that true?"

"Mr. Couzens: Yes, but when you consider that these employes of the transportation companies come in contact with the citizens three hundred and fifty to four hundred million times a year, do you suppose the citizenship—and we now have women and girls voting, which will make it more incumbent upon us to give a more decent administration than ever before—don't you think they are going to demand that they have that kind of men in office? If they get bad service from the employes of the public service company, who come in contact with them three hundred and fifty or four hundred million times a year, which is the number of people we carry in Detroit, don't you believe they are going to require a better type of officer, don't you believe they will take a greater interest in their municipal officials? I may use an analagous case. You in your own home do not care who collects the garbage or brings the ice or the groceries but you are very much interested in who waits on your table or who the nurse is that takes care of your child. There is a personal contact there that is absolutely necessary in my judgment for proper municipal ownership and operation or proper municipal government, and we do not get it because of the few employes you refer to in the water works, who do not come in contact with the citizen. Every morning he gets up and turns on the water and the water runs and his bath runs and the faucet runs and he does not care anything about who is keeping the water there. Every day the sewage is carried away, he does not care anything about who the officials are that provide all these facilities. Every night he goes on the street the lights are lit, he does not care who turns the lights on, they are lit. Municipal government may be wrong in some places, but there is a lot that is good, because there is a lot of it they do not ever think about. The thing you make the fuss about all the time is that which you come in contact with all the time, and the thing you come in contact with all the time will be the kind of street car service you get, the kind of employes you have, whether they are polite and gentlemanly or insolent. That will be the determining factor in the control you will get, and you will never get that until the employes come in contact with the citizens."

In my own testimony before the Commission, at pages 1233 and 1234, I discuss the fundamental question between private and public ownership and operation as follows:

"As to whether the street railway business is to be conducted through public or private agencies, I have reached the conclusion that there is no ultimate solution of the problem

unless we frankly undertake the local transportation function as a public function and perform it through public agencies.

"Local transportation, in the first place, as I have said, is essentially a part of the city plan. It is a public function. The street railways cannot exist except through the possession and use of special franchises in the public streets. Convenient and cheap transit has come to be an essential for the public convenience in large urban communities.

"The necessity for public control has been recognized to an increasing extent, until now the street railway companies could not possibly be permitted the freedom of initiative requisite to successful private business enterprises. Public regulation of service, maintenance, wages and other operating expenses is more difficult and more expensive where undertaken indirectly than where done directly. There is an irreconcilable conflict between the interests of the public and those of any private company operating a street railway system for profit. The result is distrust, hatred, poisoning of the political atmosphere in cities. Instinctively the American people see that private operation of a public function for profit tends to be corruptive. The public will not stand for the new privileges and exemptions that under present conditions would be necessary to enable the street railways as a private business to prosper and expand to meet the growing public needs. Chaos has been introduced into the field of regulation by this conflict of policy between the state commissions and the local authorities, to which I have already called attention, and regulation has in large measure broken down. The condition of the companies, the condition of the industry at the time may be cited as Exhibit A in the proof thereof. Of course, that does not prove—that is an assertion; it does not prove that public regulation could not be perfected and overcome mistakes that have been made and the limitations that have been made and be more successful in the future than it has been in the past. I think the difficulties are fundamental and that it is the hardest way and that we are bound to come to the other conclusion before we reach any solution.

"The cost of new capital under private ownership under existing conditions is practically prohibitive. Let us go back to what we were discussing a while ago. Take companies that are overcapitalized and take companies that, being overcapitalized and not being able to earn a fair return, by that very reason demand a higher rate of return, 8 per cent being demanded now. The higher the rate of return, that is, the more the risk, the worse off the company is; the greater the risk, the higher the rate of return, the higher the cost of capital. And if we were to allow, even after a substantial compromise, the companies' claims at the present time as to valuation, and then allow them 8 per cent return upon it, we would be paying for our capital charges for the street railway service I think at least double what capital would cost under public ownership and operation on a conservative capital value to start with. Of course, if a city in taking over the companies should take them over at a price which bankrupted them, the cost of capital for the city would continue to be excessive, although the cost of additional capital would not be great.

"So far as I can see, really conservative financial policies under private ownership are now impracticable. All schemes of private ownership and operation break down because they are inconsistent with the degree of public control that is made necessary by the nature of the business."

CHAPTER XXV

PUBLIC COOPERATION AND A NEW DEAL REQUIRED

The problem presented by the present condition of the electric railways, and particularly by the failure of their credit, suggests the need of temporary emergency measures and of a permanent plan to prevent the recurrence of the trouble. It is like the world problem of 1917: first, a couple of millions of American soldiers in France, and second, a League of Nations to prevent our having to send them again. The danger is that the difficulty of agreeing upon an ultimate solution of the street railway problem and lack of proper public initiative will cause the adoption of mere temporary expedients without any definite steps being taken toward the adoption of a permanent plan, and that the temporary expedients adopted may be such as to make the final solution of the problem increasingly difficult.

Neither a temporary nor a permanent solution can be properly worked out until clear answers have been found to certain fundamental, underlying questions. In my own testimony, at page 1221 of the Proceedings, I outlined these questions as follows:

"The first is as to the character of the investment in street railways. Shall it be speculative or non-speculative? That means, shall it be a secured investment or an investment in which the investors take risks.

"Second, shall the business be conducted primarily for profit, or shall it be conducted primarily for service? I do not mean, in asking that question, that the two can be entirely separated. I mean that the question of policy to be determined is as to whether at any given time, in any given crisis, the motive of service or the motive of profit shall be the predominating one, and determine the policy.

"Third, shall continued service be guaranteed, and shall industrial disputes in the transit business be settled without strikes?

"Fourth, shall the business be carried on through public agencies or through private agencies?"

With respect to the first of these questions, it hardly needs to be emphasized, in view of the testimony already cited and in view of the general conditions of which we may take "judicial notice," that heretofore the electric railway industry as a whole has been on a speculative basis, and that only in isolated spots where service-at-cost contracts, public guaranties or public ownership have been brought about, have street railway investments become in any considerable measure non-speculative. It follows that the answer to this first question may be a condemnation of the entire past status of the street railway industry. In fact the answers given to the question by General Tripp, Mr. Harlow C. Clark and other witnesses for the electric railways are such a condemnation. So is mine, which I give at page 1229 of the Proceedings, as follows:

"In my opinion the investment should be non-speculative. In order to make it non-speculative, certain things are necessary: First, the amount of the investment must be

determined, fixed. Second, the rate of return to be allowed upon the investment must be fixed.

* * * * *

"Some scheme must be provided for flexibility in revenues, to enable the investment to receive its return at all times. Means must be provided to secure the permanent integrity of the investment itself. That requires the physical upkeep of the property, so that the basis of the investment shall not disappear. It requires the protection of the investment from ruinous competition. It requires that the investment shall have the right to continue in service until it is taken care of, until the investors are paid. As a matter of additional safety it involves, I think, the desirability of amortization of the capital account, at least in part, so as to keep the capital account at all times well within the present physical value of the visible property."

In an address before the Conference of American Mayors on Public Policies as to Municipal Utilities, held in Philadelphia in November, 1914, before the electric railways had begun to feel the strain of war prices, and before they had started their "drive" for higher fares, except in Massachusetts, I propounded this question:

"What shall be the recognized character of public utility investments? Shall they be regarded as speculative and held at the risk of the owners, or shall they be regarded as investments in aid of public credit and be given the same security as investments in municipal bonds? If new investments are to be regarded as non-speculative, shall the cities make good all past losses as well as assume all future risks?"

And, in the same address, published as a part of the proceedings of the conference in a special volume of the *Annals of the American Academy of Political and Social Science*,¹ I gave the following answer, which seems just as appropriate now as it was in November, 1914:

"Public utility investments should be placed upon a non-speculative basis, and their security should approximate that of municipal bonds.

"In the establishment of the non-speculative character of these investments, cities should not undertake to make good past losses, unless they are compelled to do so by franchise contracts.

"So far as future investments in the standard utilities are concerned, the cities should assume the risks of loss due to unforeseen causes, and should substantially guarantee the integrity of all investments made at the request or with the approval of public authority.

"Public utility investments in the past, with some exceptions, have been highly speculative. There has been a continual buzz of promoters around city councils and state legislatures for the grant of special franchises and charters for public utilities. In most cases the sole purpose of these promoters has been either to sell the franchise or charter outright, or to construct the utility, heavily overcapitalize it and then sell its securities for a much larger sum than the amount actually invested.

"Public utilities are not always gold mines. A great deal of money has been lost in premature investments, and a great deal more has gone to the scrap heap with changes in the arts. Experience shows that the public suffers along with the investors when utilities find themselves 'hard up.' Without money to make adequate extensions and improvements, or even to keep their plants in proper repair, public utilities cannot render the service which is properly demanded of them.

"Public utility service, as an essential public function, ought not to be dependent upon a throw of the dice by the manipulators of stocks and bonds. It ought not to furnish an opportunity for any man or set of men to 'get rich.' It ought to furnish to multitudes of people of comparatively small means a safe and conservative investment for their savings. I am strongly of the conviction that it is disgraceful to a city to have its public service corporations in receivers' hands—almost as disgraceful as it would be for the city to default on its own bonds.

"The elimination of the speculator and the stock-jobber from the utility field and the establishment of utility investments upon a safe, conservative, non-speculative basis, is to my mind a fundamental condition precedent to good service, permanently low rates and adequate public control. If capital is made secure and is guaranteed a steady return, it demands nothing more than the ordinary interest rate. Under these circumstances, we should not have to pay premiums to reward capital for a risk undertaken in embarking upon public utility enterprises. There would be no risk. The only special reward offered would naturally go to the men who actually operate the property; for when security and a sure

return have overcome the characteristic timidity of money, we have then only to seek a means for enlisting the motive of men for efficiency and economy in the operation of the plant. This cannot be done by lavishing unmasked rewards upon capital as such."

The second fundamental question deals with the controlling motive—shall it be profit, or shall it be service. The answer to this question also may involve a radical condemnation of the past status of the electric railway industry, though here there is more confusion and conflict of opinion. Many witnesses for the electric railways point to the history of the industry and maintain that it shows a continuous record of improvements in service even at the expense of profit, and they all agree that the warrant for their appeal to the Federal government for help or to the state and local governments for relief from the obligations of rate contracts lies in the supreme importance of service. Yet they necessarily assume that investors in public utilities are not primarily philanthropists, and that they must be "attracted" by the rewards offered for capital. Of course, service is the inducement held out, first by the promoters, and later on by the companies themselves, as the price offered the public for the opportunity to exploit the general transportation need. The relative position of "service" and "profits" as actuating motives of the companies in the development of the electric railways was brought out in the testimony of General Tripp, where he was discussing the proper treatment of superseded property. Commissioner Sweet and Commissioner Meeker had brought up the illustration of a country merchant who started in business with a small frame building, which as he prospered was superseded by a fine brick structure, and that by a granite building, and that ultimately by a marble building. The question was whether according to General Tripp's theory of valuation, the superseded buildings would still be included in the capital account recognized as the basis for return upon the investment. An extended colloquy took place in which four of the commissioners and General Tripp joined. The discussion of the motives that actuated the companies in developing their property was incidental to the discussion of an important problem of valuation, but it was no less illuminating on that account. General Tripp's testimony with the questions and comments of the commissioners, will be found at pages 178 to 180 of the Proceedings, as follows:

"Commissioner Meeker: It is merely the marble building that is getting the return?"

"Gen. Tripp: Yes. In other words, a properly managed company when it comes to renew its bonded obligations which are falling due only issues sufficient new bonds to take care of its then requirements. Its then requirements reflect, if its books have been kept properly, the effect of depreciation charges and charging off this obsolete property.

"Commissioner Gadsden: Can I ask a question right there, because I think there is probably a little misapprehension about it. You are discussing this on the basis of a company whose income has been sufficient to set up these reserves?"

"Gen. Tripp: Yes.

"Commissioner Gadsden: That is true, is it not?"

"Gen. Tripp: Yes.

"Commissioner Gadsden: As a matter of fact in the history of the industry have these companies set up these reserves to do that?"

"Gen. Tripp: Some have and some have not and those that have not are today on the verge of bankruptcy and you will have no difficulty in dealing with those.

"Commissioner Beall: Let me ask a question which I think will clarify it. Is not the general fact this: Take in New York, for instance, where the roads have changed from cable to electricity. They did not do it because the cable was no longer able to take care of the traffic or because it was absolutely obsolete, because it was so old it was worn out. They thought they had a better method, a more economical method to the public, cheaper service and better service and more carrying capacity—

"Gen. Tripp: Yes.

"Commissioner Beall: They made those changes from the cable roads and did the same thing in Seattle and numerous other cities, when those cable roads still had a life of a good many years.

"Gen. Tripp: Yes.

"Commissioner Beall: Some of them had only run for a few years. If they had run for twenty years they could not have built up enough reserve to charge it off at once. The method generally pursued I understand was this, they did not charge them off in one fell swoop, but amortized it over a number of years. For instance, if the change cost three million dollars and they lost three million dollars for the junk in the old cable, they amortized that over twenty or thirty years, so much a year. Now the fares proved insufficient from year to year on account of the depreciated purchasing power of the nickel and they were not able to carry through that amortization and the result today is that the companies in the great cities are carrying a big investment which they have not been able to amortize and wipe out and that came about through their desire to give better service to the public and they junked some things that were only five years old. Is not that true in a great many cases?

"Gen. Tripp: Well—

"Commissioner Beall: Let me follow that up. I do not understand you to say, do I, that until they have had an opportunity to properly take care of that amortization of past investment that they junked in order to give better service—until they are able to get that out of the way, ought not they be allowed to earn on it?

"Gen. Tripp: Certainly.

"Commissioner Beall: I do not think that was clear, from your statement.

"General Tripp: But generally speaking, my method of valuing securities would result in that very thing.

"Commissioner Beall: I think it would, but I do not think the Commission quite got that point, that nearly all these companies in the big cities are still carrying a great big investment which represents things which they junked which still had a long useful life before them, in order to give better service to the public.

"Commissioner Sweet: There is just one question. You do not mean to say, General, that the change from the cable to electricity was done solely to render better service to the public, do you?

"Gen. Tripp: Not at all.

"Commissioner Sweet: Was not the element of greater economy and greater profit to the companies a large element?

"Gen. Tripp: Oh, yes, the larger element, of course.

"Commissioner Beall: It was a combination of both, they were able to give better and faster service and carry more people.

"Commissioner Sweet: Yes.

"Commissioner Meeker: Then in answer to my question, the companies are in some instances carrying stock issues or bond issues that represent the obsolete brick building. They have not yet had time to amortize them?

"Gen. Tripp: I am glad you asked that question, because I had almost forgotten to add to my reply to Commissioner Beall—all those companies that have come under my observation, that have changed from cable to electricity have been through the hands of a receiver and the whole thing has been wiped out."

It is clear that profits and service can travel along the road together as boon companions as long as "everything is lovely and the goose hangs high," but when it is time for another feast and there is nothing left but a goose wing and a few feathers there is sure to be a disagreement. In other words, financial distress brings out the fundamental antagonism between the profit motive and the service motive and compels a "showdown" as to which comes first. My own reason for giving service the precedence is set forth as follows, at pages 1230 and 1231 of the Proceedings:

"I think the business should be conducted for service and not profit; that is, that the service should be the predominant motive, the controlling motive at all times; and the reason for that is that I believe the service is an essential public service, so vital to our municipalities that we cannot afford to permit the public policy with respect to transportation to be determined by the exigencies of profit.

"Transportation facilities, in the first place, should be developed and operated as a unit for every urban community. It is a part of the city plan. Extensions should be built, I think, as determined by public authority. That is a part of the city plan. Rates should be fixed with an eye to their effect on urban development. Take New York, for example. Here we have

the 5-cent fare, under the subway contract, which has been subsidized by the city, practically, to the extent of two or three hundred million dollars. The city, whether rightly or mistakenly, had the idea that the enormous congestion in Manhattan could be in part relieved by building a transit system out in every direction, and providing a low uniform fare for everybody, taking people out into the suburbs. If the city, as a part of its plan of development, determines that that is a good policy to follow, that the flat uniform fare and the low fare has a beneficial effect upon city development, those considerations should, I think, control in fixing the fare. Of course, everything is subject to human limitations, and when I say that service should control, and that profits should stand aside, I mean that service should control, being modified by the necessity, where the necessity exists, of making the service pay; but that the city should consider that making up deficits out of taxes, if necessary, is more important than making the business self-sustaining, if the rates that would make it self-sustaining have a deleterious effect upon municipal development."

Further on, at page 1232 of the Proceedings, I say :

"If the maximum service, if it is not wasteful, cannot be made self-sustaining, it should be subsidized, and excess earnings should be put back into the business. Special taxes should be removed when you have this scheme in operation."

The third fundamental question has to do with continuity of service. It involves the whole matter of labor relations. Here again the answer to the question propounded may involve the indictment of the past policies and status of the electric railway industry. The companies fully realize and stoutly maintain that wages cannot be increased indefinitely by public authority unless *pari passu* revenues are increased by public authority to provide for the wage increases. They also recognize that wages cannot be increased indefinitely without increasing the cost of service to a point where it may be impossible to make it self-sustaining under any rate schedule that might be adopted. The public realizes, on the other hand, that if it withdraws from participation in wage controversies and refuses to assume any responsibility for their financial results, the whole problem will be thrown back upon the companies and the men, to be settled according to the old rules of warfare. Bankruptcy will fight starvation, and starvation will fight bankruptcy, and while the ugly scrimmage is going on, the people will walk, business will be more or less paralyzed and in certain contingencies the very foundations of social order and freedom of life will be disturbed. Under these conditions street railway investments will become more speculative than ever, and the condition of street railway credit will be more precarious than it was before the war.

My own answer to this question with respect to continuity of service is found at pages 1232 and 1233 of the Proceedings, where I say :

"As to continuity of service, I believe that continuity of service should be assured, and that the street railway strike should be made unnecessary and outlawed.

"I think that the employes should be encouraged to organize for their mutual benefit and as a means for securing cooperation in discipline and management, and to provide an agency for presenting their grievances in an authoritative way, and securing full publicity and prompt attention to them.

* * * * *

"I think responsibility for fixing the wages, hours and conditions of labor should be assumed as a public function to be performed through an appropriate public agency. That is not going into much detail, but we have got to the point where we cannot leave the determination of wages, hours and conditions of labor to the private companies without public control. There are too many things involved. The welfare of the community—even, at times, the very stability of our institutions—may depend upon the keeping of order and the maintenance of public utility services, transportation services.

"We certainly have reached the point where we cannot leave disputes as to wages, and hours and conditions of labor, to be fought out between the private employer and the men,

without the public, that has the primary and ultimate interest, being responsible for the final settlement of the dispute.

"My third statement in this connection: I want to say frankly that I believe that the strike, as a concerted effort to interrupt service in local transportation, should be prohibited and effectively penalized. I put that last because I do not believe that such action should be taken except after the basis for it has been laid by providing adequate means for the prompt and effective settlement of disputes with justice to the employes through other measures than the strike. But I cannot see how we can possibly tolerate the continuance of the 'right to strike,' by that meaning the right to engage in a concerted effort to stop service on a public utility street railway system.

"That, of course, is a very difficult problem to work out in its details, but it is a vital one."

The answers which I have given to these three fundamental questions relating to (1) the speculative or non-speculative character of the investment; (2) the predominance of profit or service as the controlling motive in electric railway construction and operation, and (3) the adoption of measures to insure continuity of service lead inevitably, in my opinion, to the answer that I have already given to the fourth question, namely, whether local transportation shall be provided through private or through public agencies.

Regardless of the ultimate political and economic theories supporting private or public ownership and operation, there was general agreement among the witnesses before the Commission that cooperation between the electric railways and the public is essential to the successful performance of the transportation function by private companies, and that as a rule such cooperation has not been forthcoming in the past. Some blame the companies for the failure; some blame the public; and some blame the inherent inconsistency involved in the performance of a public function through private agencies organized for profit. Ex-President Taft thinks that the public has more than paid off its score against the companies. At page 4 of the Proceedings, he says:

"Then there has been, growing out of corruption, the watering of stock and the dealing with councils and the feeling of hostility on the part of the people against the companies, the development of a condition so that whatever advantages the companies may have secured by sinister means earlier have been more than offset by the injustices that the people have done, or that their representatives have done growing out of that past history, to these enterprises."

Mr. Francis H. Sisson took much the same view of the situation, as will be seen from the following question and answer found at page 327 of the Proceedings:

"Commissioner Sweet: The present attitude of the public upon this subject is a sort of inheritance, is it not?"

"Mr. Sisson: Yes; it is in part justified, and in part blind, unreasoning ignorance of self-interest. It is justified in a measure, by some bad practices—bad financial practices and operating practices in the past, that have aroused resentment, and proper resentment, but from which the public has reacted to a point of antagonism that is just as unfair and unwarranted and unjustified as the actions which they themselves have criticized."

Mr. Morris L. Cooke, in testimony already quoted, gives it as his impression that the differences between the public and the private interests involved in the electric railway business have become irreconcilable.

That the companies do not enjoy the full confidence and cooperation of their own employes is clearly shown by the character of the Brief filed with the Commission on behalf of the Amalgamated Association, and also by the testimony of many witnesses. Dr. Thomas Conway, Professor of Finance in the University of Pennsylvania, testified for the Electric Railway Association. He expressed

great financial alarm about the labor situation, but confessed that he had not been able to think out a practical solution of the problem. At page 950 of the Proceedings, he said:

"You have got to the point where labor must feel that they are not dealing with an alien enemy, and that is their attitude with most companies. They have no interest in common with the company. They feel that everything they get is the fair spoils of war."

In his statement to the Commission introductory to the presentation of the claims of the electric railway industry, Mr. John H. Pardee, at that time President of the American Electric Railway Association, expressed in unmistakable terms his conviction that old things must pass away and all things become new in the matter of the public relations of the electric railway industry. At pages 64 and 65 of the Proceedings, he says:

"In my opinion, and I am confident that in this opinion I will be supported by the industry, there are two major phases of the situation which we now face. The first concerns the absolutely uneconomic and unsatisfactory basis upon which the relations between the electric railways and the public have rested since the enterprise was inaugurated; and by this I mean that there has never been a proper conception either on the part of the owners of these properties or on the part of the public as to the factors which should govern the service to be rendered or the fares to be charged by electric railways. This is a situation which has existed during the entire life of the industry and is responsible for much of the misunderstanding between the companies and the public. It existed before the war, is entirely unconnected with the changes wrought by the war, but is one of the fundamental reasons why the war has helped to bring disaster upon us.

"The second phase was the direct result of the war. It first developed immediately after the declaration of war in 1914, and was vastly accentuated by the entrance of the United States into the war in 1917. The national war program, to which we, as railway men, all subscribed, and to the fulfillment of which we lent our very best endeavors, involved the electric railways and other public utilities to an extent immeasurably greater than that in which any other national industry was involved. The Government took control of our labor, it raised the wages of our employes in many cases as much as 100 per cent; it took command of our fuel supply, and fixed the prices which we were compelled to pay for coal; it fixed the price of every commodity that entered in the maintenance and operation of electric railways; in a vast number of cases, it prescribed the service which we were to perform, and called upon us companies for construction involving many millions of dollars. In fact, there was not a phase of electric railway operation in which the Government did not interfere, with the result that the cost of operating our roads was very greatly and materially increased. This it did to add to our burdens—to assist us in bearing these burdens and to meet these obligations, it did nothing.

"We are not here to claim that this action of the Government was not entirely necessary and entirely proper, or that it exclusively affected our industry, but we do say that its effect upon the railways of the country was the more pronounced and the more disastrous because alone of all the industries affected, the public utilities were unable to apply the obvious remedy, an increase, on their own volition, in the price of their product to meet the increase in its cost thus forced upon them.

* * * * *

"We believe that our problem, in the solution of which we claim your assistance, is a problem of readjusting an essential industry to conditions that have materially changed, first, because of the natural development of the business and the changing civic and social life of the communities, and second, because the great war has wrought a great change in national concepts of industrial and social relations.

"As I see it the elements that go to make up these changed conditions as they directly affect electric railways are:

"First, the higher price level upon which not only the United States but the entire world has entered, which seems bound to obtain for an indefinite period of years.

"Second, the conditions surrounding the employment of labor, which is a larger part of the cost of operation of electric railways than it is of any other industry with which I am acquainted. In this connection I believe that it must be evident to any unbiased and unprejudiced student of present-day conditions that labor is demanding and will receive a greater share in the wealth that it produces than ever before in the history of the world. Everywhere industry is adjusting itself to meet these demands, and no lasting solution of the rail-

way problem can be reached unless this industry is put in a financial position where it can render the same meed of justice to its employes as is expected from industry generally.

"Third, the introduction of a new competitive factor, in the automobile, not only the so-called 'jitney,' but more especially the privately owned automobile and the motor truck.

"Fourth, the enlarged functions of street railway systems, which with the growth of the communities they serve have ceased to be private enterprises, with the sole aim of adding to the comfort and convenience of the public, and have become absolutely essential to the community growth, development, health and welfare, * * * * with the result that it is no longer possible to consider either service or rates from the standpoint of business principle alone."

On every hand, we find expressions of opinion to the effect that the electric railway industry cannot go on on its old basis; if its credit is to be restored, an entirely new deal is necessary, and new relations with the public and with its employes must be established.

CHAPTER XXVI

INCREASE IN MARGIN AVAILABLE FOR CAPITAL

Mr. James W. Welsh, statistician for the American Electric Railway Association, introduced Chart C-103 and a table of figures showing the financial trend of street railway operations as shown by the United States Census reports for 1902, 1907, 1912 and 1917, and by estimates for 1918 based upon returns from the 345 company members of the Association. These figures indicate that the amount of net income of all the electric railways of the country available for dividends and surplus amounted to \$40,340,286 in 1907; \$68,139,889 in 1912; \$56,450,930 in 1917; and only \$20,183,414 in 1918. The combined income account of the street railways of New York City for the year ended June 30, 1919, showed a deficiency of \$5,583,819 after payment of operating expenses, taxes, interest, rents, and other compulsory deductions from income. This result was \$10,858,855 worse than the result for the preceding year. Nevertheless, the amount available for return on investment in the form of interest, rentals and other compulsory deductions from income was \$30,583,649 on the New York City lines for the year ended June 30, 1919. These figures prove nothing as to what the real financial condition of the railways is on the basis of a sound capitalization, but they do indicate that the margin between the operating companies and bankruptcy is diminishing where it has not already disappeared. The figures indicate that, if the companies' existing securities are to be maintained and their existing managements protected, the revenues will have to be increased so as to reestablish and maintain a surplus over operating expenses, taxes and fixed charges. The sharp advances in operating ratios, to which I have referred in an earlier chapter of this report, have the same general significance.

The first remedy for the credit situation proposed by the electric railway companies is an increase in their net earning power. They propose that something be done to keep the expense curve and the revenue curve from coming so close together. Either revenues must be forced up or expenses forced down. Without a reorganization of their financial structures, the difference between revenues and expenses must be kept at least large enough to pay all fixed charges, and if the electric railways are to have credit sufficient to attract new capital, there must be an additional "margin of safety" to give reasonable assurance that fixed charges will be earned in lean years as well as fat ones.

Mr. Halford Erickson, formerly for many years a prominent member of the Wisconsin Railroad Commission, and now a member of the consulting public utility appraisal firm, Hagenah & Erickson, appeared before the Commission for the Electric Railway Association to discuss, among other things, this matter of the net earning power necessary for the restoration and preservation of street

railway credit. Mr. Erickson testified that he had made a study of the cost of capital on about 35 leading street railway systems. He found that from 1910 to 1915 the net earnings fell about 33 per cent. In 1915 the cost per passenger per ride, without anything for depreciation or return on investment was 3.6 cents on these roads. An 8 per cent return on the value of the property figured out 2.5 cents additional, making the total average cost per ride on this basis 6.1 cents. Mr. Erickson found that in 1918 this total cost had increased to 7.3 cents, and stated that in 1919 the cost would be still higher. The average fare collected by these roads in 1915 was about 5 cents, and in 1919 "slightly more than 5 cents, not a great deal more, but slightly more." His testimony on this point appears at pages 969, 973 and 974 of the Proceedings. At page 973, he describes the general course of street railway credit as follows:

"The financial situation of the street railways during the past twenty-five years has varied from doubtful up to fair and down again to doubtful or bad.

"During the first part of this transition period much property had to be destroyed or discarded and replaced by new and different equipment. The investment grew faster than the earnings. All this tended to keep investors away. About 1900 this had changed somewhat and for some years the earnings grew somewhat faster than the investment. This had a strong tendency to draw capital into the street railway field. Many of the underlying bonds even advanced into the investment class.

"About 1910, however, the condition again began to change in the opposite direction. Since about that time the investment and the operating expenses have increased faster than the earnings. At the outbreak of the war most roads were earning less than it was necessary to earn to attract all the new capital that was needed."

At pages 975 and 976 of the Proceedings, Mr. Erickson summarizes the conditions upon which capital can be had or securities sold, as follows:

"The property and earnings behind the investment must be sufficient to afford the necessary protection against risks, and to also constitute adequate compensation for the use of capital employed, and for the work and responsibilities assumed by the employer and investor.

"Investments in bonds, in order to be safe, must have behind them much more property than their par value, and much greater net earnings than the interest charges on the bonds.

"Stocks, in order to be fairly safe or to come in the investment class, must have behind them at least as much property as their par value, and much greater net earnings than the ordinary 6 per cent or 7 per cent dividends that may be paid thereon.

"Without such margins of safety as these the securities are speculative rather than investment propositions.

"The fact that investment securities must be protected by more property than their par value and by much greater net earnings than the ordinary interest and dividend charges shows:

"1. That the cost of capital is represented by the amount of the net earnings that are required in order that the securities thus representing the capital may sell on the ordinary investment or income basis, and

"2. That the rates charged by a utility for the service it furnishes must in the long run be high enough to yield such net earnings.

"The investment conditions in these respects, which prevailed for several years prior to the war, may be further summarized as follows:

"Investors, in order to purchase 5½ per cent to 6½ per cent bonds at par required among other things:

"1. That such bonds should not amount to more than about two-thirds of the value of the assets behind them.

"2. That the net earnings of the issuing company should amount to not less than twice as much as the interest charges on such bonds.

"3. That the past record and future prospects of the utility should be good or at least very fair.

"4. That in taking the securities on such income bases as those given, the investors would not assume the cost of such discounts, commissions, and other selling and issuing expenses as had to be met when the securities were first put on the market.

"Such bonds as these represent for the most part the class of investment bonds which were available for new capital at the time.

"The comparatively few available underlying issues which were better protected than this were selling at somewhat higher prices and lower yields.

"The many junior issues bearing the same rates of interest but which were less well protected than this were selling at lower prices, and higher yields or often much below par.

"Investors in order to purchase 6 per cent to 7 per cent stocks at about par at that time required:

"1. That the par value of such stocks should not amount to more, or as much as, the amount by which the value of the assets exceeded the par value of the bonds which come ahead of such stocks.

"2. That the net earnings of the company which were available for returns or dividends on such stocks should amount to from more than half again to fully twice as much as the regular dividends.

"3. That in addition to this the amount by which the net earnings for the stock exceeded the regular dividends be used for strengthening the equities behind the stock and for occasional extra dividends thereon.

"4. That the future prospects of the company appear to be good or at least fair.

"In taking the stock on these bases the investor did not assume the cost of discounts, commissions or other selling expenses.

"Less well protected stocks than this bearing the same rates of dividends sold at lower prices and higher yields or below par. Better protected stocks with similar dividend rates sold at higher prices and lower yields, or sometimes above par."

After describing in some detail the terms on which the various classes of securities issued by the roads included in his study were sold during the pre-war period, he continued at page 978 of the Proceedings:

"All of these facts clearly show that for several years up to the earlier years of the war the utilities, as has been stated, could not obtain all the capital they needed on normal terms and conditions unless the net earnings for returns on the investment amounted to at least 8 per cent on the fair value of the plant and the business.

"These facts show further that during the same years the net earnings for returns did not on the average amount to much more than about half of this or to only about 4 per cent.

"It is further disclosed that the unsatisfactory conditions in which the street railways found themselves at the beginning of the war have steadily grown worse since then. During the past two years they have earned but little more than enough to cover the operating expenses."

All this emphasizes the need of net earning power as a support for credit. Many of the witnesses for the companies recognized the importance of a valuation of the properties and of the ultimate security for the investment which may be brought about through a service-at-cost contract, but were of the opinion that the thing urgently needed without delay is more net income.

It cannot be doubted that in many cases greater revenues or smaller expenses are needed to save the companies. Whether saving the companies is a condition of saving the industry is not so clear. Where it is shown that the margin left after payment of operating expenses and taxes is insufficient to meet the cost of capital on a really conservative basis—such a basis as we find in Cleveland, for example—then, of course, the margin must be increased. And then the question is: Greater revenues or smaller expenses, which shall it be?

CHAPTER XXVII

DOUBLE PURPOSE OF UNIT FARE INCREASES

Most of the witnesses for the electric railways did not hesitate to vote for larger revenues and to propose fare increases as the only feasible method of getting them promptly. Moreover, they were pretty well agreed that immediate fare increases should take the form of an increase in unit fares. While many favored the zone system, they thought that zoning in any particular case requires study, and that the emergency confronting the electric railways would not permit of the delay which such a study would necessitate. A policy calling for an increase in fares above five cents was favored for two reasons. In the first place, the change, particularly if effected by state commissions through the abrogation of municipal franchise limitations, would enable the industry to break away from the old rule of a fixed fare based upon contract. This would get the electric railways out of the rut in which they have been running from the beginning and would open the way for a flexible fare adjustable to fluctuations in the cost of service. This change would be, in every sense, a momentous one for the industry. It would break the five-cent habit; it would break the five-cent contracts; in most cases it would break the power of the municipalities to impose binding limitations upon rates as a condition of franchise grants. In the second place, it would bring in the additional revenues immediately needed for the relief of the companies' financial distress.

As a matter of fact, the abrogation of the five-cent fare and of the contracts on which it was based was already, in large measure, an accomplished fact when the Commission's hearings were begun. The American Electric Railway Association filed with the Commission a tabulation revised to August 9, 1919, entitled "A Summary of the Cities in which Fares have been Increased, showing Name of City, Population, Company Operating, Date of Increase, Present and Former Fare." In February, 1920, the Illinois Committee on Public Utility Information issued a special bulletin entitled "Official Statistics of Nation's Electric Railway Fare Situation," and the "Aera" for February, 1920, contains a review of fare increases by Mr. Harlow C. Clark showing "conditions in all cities having a population of more than 25,000 as they now exist." These three statements show that only a comparatively few cities still retain the five-cent fare.¹ The most important of these are New York, Philadelphia, Detroit, Cleveland, Buffalo, San Francisco, Los Angeles, Minneapolis, St. Paul, Indianapolis, Rochester, Louisville, Columbus, O., Dayton, Richmond, Va., Dallas, Houston, Fort Worth, Nashville, New Bedford, Des Moines, Yonkers, Oklahoma City, Duluth, Akron, Jacksonville, Fort Wayne and Evansville. Even in many of these, fares have been increased during the past two years by the abolition of low fare tickets and in one or two cases by the establishment of a charge for transfers.

The Special Bulletin of the Illinois "Committee" enumerates 424 cities with an aggregate estimated population of 24,675,579 where the unit fare has been increased to more than five cents. These cities are classified as follows:

<i>Present Fare</i>	<i>Number of Cities</i>	<i>Aggregate Population</i>
Ten cents	59	3,076,251
Nine cents	1	64,720
Eight cents	21	4,122,322
Seven cents, with one cent charge for transfer.....	26	1,742,586
Seven cents in central zone and five-cent zones outside	1	56,503
Seven-cent zones	3	157,387
Seven cents	118	5,105,273
Six-cent zones, with two cents transfer charge.....	10	485,810
Six cents for two zones, with two cents per zone thereafter	13	685,041
Six cents for each of two zones.....	4	245,175
Six cents (with two cents transfer charge in some cases)	158	8,934,511
Total	424	24,675,579

The cities where the 10-cent fare prevails include Boston, Fall River, Lowell, Cambridge, Lynn, Lawrence and other cities in eastern Massachusetts, Pittsburgh and a number of smaller cities in Pennsylvania, and a few cities in other states. The 9-cent fare is in Portland, Maine, where a zone system is in use. For a ride not exceeding three zones, the cash fare is nine cents, but the ticket fare seven cents and about 95 per cent of the passengers use tickets. The 8-cent fare prevails in St. Louis and Kansas City, Missouri; on the elevated lines of Chicago; in Youngstown, Ohio; in Manchester, New Hampshire; in Wilkes-Barre, Pennsylvania, and in a number of smaller cities in different parts of the country. The 7-cent fare, with a charge of one cent for an initial transfer, applies over the entire Public Service Railway system in New Jersey, serving Newark, Jersey City, Paterson, Camden, Elizabeth, Hoboken, Passaic, Bayonne and all the other principal cities of the state except Atlantic City and Trenton. Holyoke, Massachusetts, has a 7-cent central zone and 5-cent zones outside, and Springfield and two other places in Massachusetts have straight 7-cent zones. Seven cents without a transfer charge is the unit fare in Baltimore, Milwaukee, Cincinnati, Omaha, Scranton, Tacoma, Reading, Wilmington (Delaware), St. Joseph (Missouri), Erie and more than one hundred other cities scattered throughout the country. In Washington, D. C., where two street railway systems operate, the fare is seven cents on each system with a 2-cent charge for inter-company transfers. In New Haven, Bridgeport, Hartford, Waterbury and most of the other cities of Connecticut, a zone system is in effect in which the minimum fare is six cents for a ride through two zones, with an additional charge of two cents per zone outside the city limits. Worcester, Massachusetts, has two zones in each of which a 6-cent fare is charged. The same system applies to three smaller Massachusetts cities. The straight 6-cent fare is in vogue on the surface lines of Chicago, and in New Orleans, Portland (Oregon), Denver, Oakland, Atlanta, Birmingham, Spokane, Syracuse, Memphis, Grand Rapids (Michigan), Salt Lake City, Schenectady, Albany, Utica, and a great many other cities in all parts of the country. In Toledo, Norfolk and a few other places the 6-cent fare is accompanied by a transfer charge of two cents.²

The statistics contained in the Special Bulletin were not accurate in every respect. For example, Buffalo was listed among the 7-cent fare cities in spite of the fact that it still had the 5-cent fare. Undoubtedly, the explanation of this error lies in the fact that the Public Service Commission for the Second District of New York, some time previously, had authorized the International Railway Company in Buffalo to charge a 7-cent fare, but the company had thus far preferred to stick to five cents. Also, Kansas City, Kansas, is listed among the 6-cent fare cities, although it now has an 8-cent fare. Wilmington, Delaware, is included in both the 7-cent fare list and the 6-cent fare list.

In its introductory summary the Bulletin states that the total population of the cities affected by fare increases is 31,217,837. It will be noted that this figure is 6,542,258 in excess of the figure given above for the aggregate population of cities where the unit fare is more than five cents. This discrepancy is more than accounted for by the population of New York City, Cleveland and certain other places where a charge is made for transfers, and by the population of Detroit, Indianapolis, Richmond (Virginia), Dayton, New Bedford, Des Moines and a considerable number of other cities where reduced rates have been abolished and a straight 5-cent fare is now being charged. The Special Bulletin does not explain the basis for its estimates of population and does not give the detailed figures for the different cities. It is impossible, therefore, to check the statistics in such a way as to eliminate all discrepancies. The Bulletin may contain many errors in addition to those which I have pointed out, but probably its statements of fact are sufficiently accurate for the purpose for which they are here quoted, namely, to show in general the extent to which the 5-cent fare has been abandoned on street railway lines throughout the country.

In his article in the February, 1920, "Aera," Mr. Harlow C. Clark says:

"Increased fares in one form or another are now effective in all but 56 of the 273 cities in the United States having a population of 25,000 or more. The cash fare in 196 of them is more than five cents, in 118 of them more than six cents, in 64 of them more than seven cents, and in 34 of them more than eight cents.

"In all but 15 of the 68 cities, with more than 100,000 population, the cash rate is more than five cents; in 40 of the 62 cities between 50,000 and 100,000, it is more than five cents, and in 103 of the 142 cities having less than 50,000 it is more than five cents.

"In Colorado, Connecticut, Delaware, the District of Columbia, Illinois, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New Jersey, North Carolina, Oregon, South Carolina, Rhode Island and Virginia, the fares in every city of more than 25,000 have been increased. In Michigan and Pennsylvania, the fares in all but one city have been increased, while of New York's 22 cities having more than 25,000, but two remain without some form of increase."

It will be noted that, according to Mr. Clark's statement, only two of the twenty-two cities in the State of New York "remain without some form of increase." Later in his article he explains that New York City is counted as one of the cities having an increase although no increase in the base fare has been granted. His reason for including it appears to be that a transfer charge has been established by the Public Service Commission at certain points in the Boroughs of Manhattan and Brooklyn. Mr. Clark states that "in 150 of the 217 cities in which fares have been increased, the increase has been the result of the action of state commissions, in 44 of municipal authorities, in two of courts and in 21 of automatic regulation under service-at-cost plans." He also says:

"In connection with the rates of fare now prevailing in American cities, it must be remembered that all of these roads are operating upon a starvation basis. The cost of the service as reflected in fares now in effect, and the application for increases which are pending, represent in many cases service and facilities reduced to the minimum. New capital is not available and improvements and extensions are awaiting the restored credit of the companies. * * * * One of the reasons for the high rate of fare in Boston is that a large sum has been spent in rehabilitation.

"This question of rehabilitation has a marked bearing upon the entire fare situation. Deferred maintenance is piling up on most of these properties. The longer it is delayed, the greater the cost when it is finally undertaken, and the higher the cost of operation during the period in which track, equipment and overhead are neglected. A small increase of fare made immediately at the time that it is needed is worth more than a large increase that comes after a long delay."

Mr. Clark in his article also compares his statistics of fare increases with those published in the "Aera" for April, 1919. In his opinion these statistics "indicate that the process of readjusting street railway revenue to the situation caused by the depreciated dollar is proceeding all over the country, and that the six-cent car fare is fast following into oblivion the five-cent fare as insufficient to meet the still rising costs of operation." He states that in April, 1919, the cash fare in 156 cities was more than five cents, while today it is more than five cents in 196 cities; that in April, 1919, it was more than six cents in 53 cities, while today it is more than six cents in 118 cities; that in April, 1919, it was more than seven cents in 24 cities, while today it is more than seven cents in 64 cities; that in April, 1919, it was more than eight cents in 13 cities, while today it is more than eight cents in 34 cities. It must be remembered that Mr. Clark's statistics relate only to the 273 cities of the country having an estimated population of 25,000 or more, while the cities listed in the Special Bulletin of the Illinois Committee on Public Utility Information include smaller places. Mr. Clark states that "Cleveland, operating under a service-at-cost plan, Chicago and Galveston operating under what are practically service-at-cost plans are the only cities in which fares have been reduced from the top limits put into effect during the war," but a little further on in his article he calls attention to the fact that the fare in Scranton was reduced in 1919 from eight cents to seven cents; and still further on, in his special paragraph relating to Scranton, it appears that the reduction of fare effective in 1919 was not from eight cents to a straight seven-cent fare but to seven cents cash fare and tickets at the rate of 4 for 25 cents.

Mr. Clark's statement that the Chicago lines are being operated under what is practically a service-at-cost plan is quite inaccurate, as the Chicago settlement ordinances of 1907 did not incorporate the fundamental principle of service-at-cost, and, furthermore, at the present time the fares are fixed by the state public utilities commission.

It is worth while, however, to observe the effect of the genuine service-at-cost plans upon rates where the fixed 5-cent fare has been abrogated and the cost of service is levied against the car rider. This is important because it is only under service-at-cost arrangements that the electric railway companies get the full benefit of the abrogation of the fixed 5-cent fare, and enjoy a measurable assurance that fare increases will in fact give them the immediate increase in revenue which they desire and reestablish their credit. In Cleveland the fare advanced in August, 1918, to five cents cash with a 1-cent charge for a transfer. This was

the maximum fare reached during the war period. There have since been two decreases. The first was effective July 7, 1919, when, in addition to the 5-cent cash fare, tickets were put on sale at the rate of 11 for 50 cents. The second decrease was effective in December, 1919, when the ticket rate was reduced to 6 for 25 cents. In Massachusetts, on the Boston Elevated system and the old Bay State lines, fares have gone up to ten cents under the service-at-cost statutes, and this accounts for 28 of the 37 ten-cent fare cities listed in the Illinois Committee's Special Bulletin. In Cincinnati, where a service-at-cost plan has been operating since October 1, 1918, the fare went up from a straight five cents prior to January 1, 1919, through several gradations until it reached a straight seven cents in October, 1919. In Youngstown, Ohio, another service-at-cost city, the fare prior to January, 1919, was five cents with 6 tickets for 25 cents and 25 tickets for \$1.00. It went up through several gradations until January, 1920, when it reached eight cents cash, with 7 tickets for 50 cents and a one-cent transfer charge. So far as I know these are the only cities in the United States where the service-at-cost plan has been in effect to the extent of permitting an automatic readjustment of fares up to the full cost of service under war conditions. Cleveland had a low maximum fare limitation, but under the stress of war expenses this maximum was raised to six cents and the cost of service has never gone as high as that. In 1917, Dallas adopted a modified service-at-cost franchise with a five-cent minimum fare, and thus far, although the Dallas Railway Company has not earned the full rate of return upon the recognized value of its property since the new franchise went into effect, the maximum fare limit has not been raised.³

It is obvious from the statistics of fare increases which I have cited that the electric railways of the country have made a great deal of headway against the old five-cent fare limitation. While their struggle is still going on in New York City and certain other communities, a sufficient amount of actual experience with fare increases has been accumulated in various parts of the country to furnish some basis for an analysis of the effect of fare increases upon the financial well-being of the companies. From Mr. Harlow C. Clark's statement in his review of the fare situation in the February "Aera," it can hardly be said that electric railway companies generally have as yet achieved a restoration of their credit either through fare increases or otherwise.

CHAPTER XXVIII

EFFECT OF FARE INCREASES UPON TRAFFIC AND REVENUES

The fundamental conflict of interests between the electric railway companies as purveyors of local transportation and the general urban public as consumers of transportation service has been accentuated by the financial straits in which the companies have found themselves during the war period. Like a snag in the river brought to light by low water, the underlying cause of the antagonism has been revealed, not created, by the extraordinary conditions of the present time.

Until the present period of street railway demoralization set in, the philosophy of street railroading held that a company's prospects of prosperity are in direct ratio to the prospective increase in its traffic; but since the companies began to be hard hit by war conditions, and since the shrinkage of their net incomes under the fixed rates of fare prescribed by statute, contract or custom has resulted in the destruction of their borrowing power, they have felt so depressed financially that they have almost lost interest in traffic increases. What they are now interested in is the net income—how big are the figures, and are they black or are they red?

In April, 1919, I was in a New England city one day and took occasion to visit the offices of the local street railway company to inquire into the new zone system of fares which it had installed a few weeks before. I wanted to ascertain what the effect of recent fare increases upon the amount of street railway traffic had been, but I was told by the manager that since the installation of the zoning plan the company no longer counted its passengers. "Of what use would the traffic figures be?" he asked. "What we are concerned about is the revenue. If an increase of fare or a change in the method of fare collection brings in more money, that is all we care to know." In making this statement the street railway manager did not show any spirit of arrogance or any contempt for the public welfare. He merely thought that it would be difficult or inconvenient to keep track of the number of revenue passengers under the new system of fare collection installed on his lines, and he had become so accustomed to the point of view that the one thing necessary is to save the street railway companies from bankruptcy that, apparently without much consideration, he dismissed as of little or no importance any figures the only purpose of which would be to show the amount of service rendered or the extent of the public use of the transportation lines. So long as an increase in revenue had been realized, he had no curiosity as to the number of riders who were supplying that revenue. The street railway companies are interested in *results*, and to them at the present time results are measured in terms of gross revenue and net income. The public is also interested in results, but its test question is: "How much service is rendered—how many

people actually find it convenient to use the street cars, and under what conditions are they permitted to use them?"

Passenger fares are the primary and almost the exclusive source of revenue of urban electric railways. All parties agree that the full cost of an essential service such as local transportation must be paid by or on behalf of those who use it, if the service is to be continued. While private ownership and operation lasts, the companies, especially in their present mood, are not much concerned as to *how* this cost is paid so long as it is paid in some way or other.

The most obvious method of increasing revenues where the cost of production has increased is to increase the price of the product. In the absence of restrictions limiting the price, this course is the easiest one to follow, especially in a business where the service rendered is an essential one and in a large measure free from competition. The street railway man's instinct, when the cost of materials and the rate of wages went up, was to increase the fare to meet the increased costs of operation. In attempting to follow this instinct, he ran head-on into obstacles which differentiated his business from every other kind of business, much to his discomfiture. It made him "sore" to see his business ground between the upper and the nether millstones, when other lines of business, which in the past had been regarded as much less favored than street railroading, were free to adjust themselves to war conditions and to share in the extraordinary profits resulting from the era of high prices and intense industrial activity. Since the crisis came on, the street railway men have been busy trying to show that their business should be treated like any other, and that in fact it is being discriminated against through the restrictions of public regulation. Their program of relief has been focussed in an effort to throw off the restrictions heretofore imposed upon the electric railways because of their character as public utilities and because of the special privileges they enjoy in the use of the public streets.

It cannot be denied that we have reached a crisis in the relations between urban communities and the street railway companies, and that policies adopted now to relieve the financial emergency in which the companies find themselves will have a fundamental and far-reaching effect upon the future of those relations. The full cost of service, no matter how great it is, must be paid, or the service will have to be discontinued. To the extent that the increased expenses due to the present era of high prices cannot be offset by operating economies or by the elimination of non-essential service, it is quite natural to turn to the car-riders for increased revenues. From the point of view of ultimate public policy the question to be answered in this connection is: "*Will an increase in fares result in such a diminution of the usefulness of the electric railways as to deprive them of their essential character as a public utility designed to render cheap and general transportation service for urban convenience?*" This is the question from the public point of view. From the point of view of the transportation companies themselves it may also be urged that, although their chief and almost their only interest at the present moment is in securing additional net income, nevertheless their ultimate financial welfare is dependent upon the continuation of the old policy of increasing traffic, as there is great danger that the electric

railway business will not be able to sustain itself in the future at any rate of fare unless it continues to be the chief agency of local transportation.

It is obvious that public bodies in exercising their jurisdiction over street railway companies in the present emergency of the local transportation industry ought not to take a short-sighted view, and ought not to permit the adoption of policies with respect to fares and service that will result immediately in serious injury to the public, and that may result ultimately in fundamental and final disaster to the electric railways as a business. With these points in view it seemed to me that an essential part of the Commission's inquiry would be to find out as nearly as possible the definite effects of fare increases upon both traffic and revenues. This is not an easy task. During the war period there have been great shiftings and adjustments of population and industry, with the result that street railway conditions have been unsettled. The removal of great numbers of young men from every urban community of the country for military training and service could not but have a marked effect upon street railway traffic in the communities from which they were drawn. On the other hand, traffic was stimulated in certain communities by unwonted industrial activity in connection with ship-building and the manufacture of munitions; also, by the proximity of army training camps. During the last three or four months of 1918 traffic conditions were seriously affected throughout the country, though in varying degrees, by the unprecedented epidemic of Spanish influenza. Also, fare increases were put into effect at different times in different communities and without much relation to statistical convenience. In many communities fares have been increased several times at irregular intervals. In some cases the system of charging for street railway service and the methods of collecting fares have been radically changed so that the significance of the traffic figures for comparative purposes is destroyed, or the count of revenue passengers has been lost entirely.

The testimony at the hearings before the Commission with respect to the effect of fare increases on traffic and revenues was conflicting. Many of the witnesses were clearly of the opinion that fare increases should be granted, believing that such increases would result in a substantial and permanent increase of revenues. While admitting that fare increases often cause an immediate falling off of traffic, they were of the opinion that this traffic would gradually come back after the people become reconciled to the higher rates of fare. Others expressed the opinion that fares on certain systems had already been increased to or beyond the point where they produce the maximum revenue, and that any further increases might result in actual loss to the companies. Others thought that fare increases generally are of little or no benefit to the companies, and it was even suggested that in the long run such increases may only make more certain the financial ruin that has been threatening the street railway industry during the present crisis. Still others, viewing the problem more from the point of view of the general public welfare, pointed out the deleterious effects upon the community of higher fares and diminished use of local transportation facilities. It was the opinion of a number that the old rates of fare could be increased moderately, say from five cents to six cents, or possibly to seven cents, without having any serious permanent effect upon the riding habit, and, therefore,

without materially curtailing the usefulness of the street railways to the community.

It will be useful to review the testimony of a number of important witnesses on these points. At the very first public hearing given by the Commission, Ex-President Taft, speaking from his acquaintance with the electric railway industry recently acquired through his service as one of the joint-chairmen of the National War Labor Board, described the unhappy condition of the electric railways and their need for additional revenue, and advocated an increase in street railway fares as a necessary remedy. But he clearly recognized the limitations of this remedy, as shown by the following statement taken from page 5 of the Proceedings:

"If you keep the fares at 5 cents, where they always have been—and even in some cities they have been 3 cents and 4 cents; in Detroit, notably, and in Cleveland—if you keep it there, the red balance is as inevitable as the rising of the sun tomorrow morning. It is inescapable. Then you are confronted with the limitation that if you raise the rate of fare you are likely to reduce the revenues by a falling off in your patronage. I think perhaps the advancing to 6 cents does not do that, and in some cases the advance to 7 cents; but anything beyond that is certain to reduce revenues by a loss of business."

General Tripp, on behalf of the Committee of One Hundred, of the American Electric Railway Association, especially stressed the importance of getting away from an inflexible fare limitation; yet he did not think that a mere raising of fares would solve the problem, as will be seen from the following testimony found at page 153 of the Proceedings:

"Mr. Warren: And any remedy ought to involve the elimination of the fixed maximum?"

"Gen. Tripp: No other solution, in my opinion, would be adequate, even if cities should remit all taxes, and relieve the street railway companies of the burdens of paving, and all charges of that character. It would not affect the real situation. In the first place, the amount involved is not sufficient to make up the difference, and, in the next place, it is attacking the symptoms. Even permission to increase the fare on the basis of the present relationship is entirely inadequate. That does not solve the problem. The problem is one which requires a sound basis upon which to rest, but which permits of different solutions in different localities. Some communities may require a street railway service that the population in itself would not warrant, and perhaps it would be impossible to assess a fare high enough to produce sufficient net. In those particular localities, if they desire such service, the remedy is through taxation to support it, or some other methods. Zone systems may be desirable in some cases; and so, I think, the basis must be fixed upon which these various solutions may rest.

"Mr. Warren: So it is not only a matter of possibly higher fares, but a matter of relations between the company and the car-riding public that it serves?"

"Gen. Tripp: I think a new scheme of relationship must first be devised."

Mr. Henry G. Bradlee, President of the Stone & Webster Corporation, expressed a more sanguine view of the results of fare increases, as will appear from his statement at pages 216 and 217 of the Proceedings, from which I quote as follows:

"I believe that the increase in fare in the urban systems, even in the small cities, will bring about a solution of the problem, and I believe that even though the first effect of that increase in fare is to cut down earnings so that there is no immediate increase in gross, I believe the ultimate effect will be to work out the situation.

"As a matter of fact, in such of the small cities as I have had experience, and as I have seen of other properties, the increase in receipts when the fare is changed from 5 to 6 cents is about one-half of the theoretical increase. In other words, from 5 to 6 cents is 20% increase, and you actually get about 10% increase. It does not apply to all cases, but in general it runs about that way. Then gradually the falling off in riding returns; people get a little tired of walking or else the growth of the city brings new riders into the community, and after a time the riding is right where it was before with the full increase of 20%."

In his letter addressed to Chairman Elmquist, under date of October 1, 1919, Mr. Bradlee commented upon the statistics submitted by him to show the growth of traffic and revenues on the street railway lines operated by Stone and Webster, and gave utterance to the following conclusions:

"Take this group of properties of ours; they are on the average doing more business per mile of track, more business per car mile and more business per capita than they were 10 years ago. The public needs the service, demands it in greater volume than ever before; is calling on us constantly for extensions of track and increased operation of cars and with all these conditions which in ordinary times would make for abnormal prosperity the companies are without credit and are unable to borrow money or sell securities to reasonably meet the public demand. The one sole trouble is increased costs of labor and material and inability to promptly readjust the rate of fare. With an increased rate of fare commensurate with the increased cost of labor and materials, the entire situation would in my judgment be cured. I recognize fully the fact that riding will decrease temporarily with an increased rate of fare, but I have been studying the effect of fare increases for several years and during the past year have followed the results of such increases very closely. The more information I obtain the more strongly am I satisfied that the decrease in riding is a purely temporary effect which will last only for a limited period in most cases. There are a few street railways, usually suburban or interurban lines, which have been built in territory having insufficient population to support the service. Such roads should have never been built and the difficulties cannot be cured through an increase in fare but these represent only a very limited number of cases out of the total. In most cases there would appear to be a constantly increasing demand for street railway service and the only thing needed to enable the roads to meet this demand is an increased fare commensurate with increased cost of labor and materials."

Mr. Francis H. Sisson, Vice-President of the Guaranty Trust Company of New York, expressed his faith in fare increases as revenue producers in the following testimony at pages 350 and 351 of the Proceedings:

"Mr. Warren: You said that undoubtedly in some cases an increase of rate involved a loss of traffic. Did you mean by that to imply that in some cases an increase in rate involved such a loss of traffic as to yield no increase in revenue?"

"Mr. Sisson: There have been such instances, but I do not believe that would be true generally."

"Mr. Warren: They are very exceptional, are they not?"

"Mr. Sisson: They are very exceptional, yes, sir."

"Mr. Warren: In other words, has not this been the usual situation, that when the increased rate first went into effect there would be some loss of traffic, meaning by that counting the number of passengers?"

"Mr. Sisson: Yes."

"Mr. Warren: But there was almost in every case an immediate and substantial increase in revenue?"

"Mr. Sisson: Yes."

Mr. C. L. S. Tingley, Vice-President of the American Railways Company, after enumerating the company's eleven traction properties located in Pennsylvania, New Jersey, Delaware, Virginia, Ohio and Illinois, said at page 365 of the Proceedings:

"We have increased rates on practically all of those companies. The increases and the effect have been materially controlled by the industrial conditions. In communities which had a large war business, and where there had been a great influx of population, the increases did not have to be so much, and the effect was greater than it was in other communities."

Mr. Henry L. Doherty, speaking from his experience with the Toledo Railway and Light Company, the Manhattan and Queens Traction Corporation, and eight or ten smaller street railway properties, expressed confidence that fare increases will generally produce increased revenue. The following is taken from his testimony at pages 403 and 404 of the Proceedings:

"Mr. Doherty: A raise of fare eventually results always in a raise in revenue, but if I were trying to state the effect of it, I would prefer to make a fundamental analysis of it

rather than to take the specific figures from some certain town and assume that that would apply elsewhere. Now you can divide your riding into two classes, necessity riding and non-necessity riding. If you are in a city where practically all your riding is necessity riding, where the rider has to ride, of course a raise in fares will not bring any greatly diminished amount of riding. But if you are in a city where the distances are short it will bring a diminished amount of riding, at least for the time being, and I think that depends largely on the temper of the people towards the road, whether they believe the rate is justified or not. What I expect to see is this, that a raise in rates will always cause momentarily a falling off in the number of passengers, but eventually I believe, except in the smaller cities, the same number of people will ride.

"Mr. Warren: And even immediately on the change there is some increase in revenue, is there not, unless it is an exceptional case?"

"Mr. Doherty: Unless it is an exceptional case there is immediately an increase in revenue.

"Mr. Warren: So that it is a real means of relief to the companies needing additional revenue?"

"Mr. Doherty: Yes, sir."

Mr. Lucius S. Storrs, President of the Connecticut Company, was more doubtful of the saving power of fare increases for the street railway companies, as shown by the following extracts from his testimony (pages 432 and 433, 448 and 449, 451 and 461 of the Proceedings):

Pages
432
and
433

"Mr. Storrs: In Connecticut we are on a six-cent basis, having been taking six cents since October, 1917. The first twelve months period after that was the time during which we were in war and all industries throughout Connecticut were most intensely engaged in the production of the essentials of war. With the taking out of the population, the younger men for serious war duties on this side and also abroad and also the young women for loyal work, who did not need the income, to relieve men for other more serious places in the industries and offices, the result was a very great dropping off in the use of the electric railway car. The additional carrying of operatives to and from the plants in which they were engaged did not nearly compensate for the loss of riding during the normal hours of the day and during the pleasure riding hours of the day, the evening. The result was that for the first year after the installation of the six-cent fare our revenue was practically identical, that is there was an increase of .9 of one per cent in the gross revenue. That could not of course be entirely attributed to the increase in the rate of fare and it would be impossible to determine what portion of that loss in passenger riding should be attributed to the increase of rate of fare."

Page#
433

"Mr. Warren: So, from your experience have you any doubt about the efficacy of rates to produce an increase in revenue?"

"Mr. Storrs: I have a very grave doubt as to any ability on the part of the utility to estimate within any kind of reason what the result of an increase in rate might be upon the gross revenue. And of course, there is a point with the increase above six cents at which you will have a declining gross revenue. An increase to seven, eight or ten cents would result in a declining gross.

"Mr. Warren: On some lines.

"Mr. Storrs: On some lines, at least. There is a very great uncertainty."

Pages#
448
and
449

"Commissioner Sweet: Now, the question that I would like to have you answer, if you feel disposed to do so, and can, is to tell the Commission what temporary measures, in your judgment, ought to be adopted, pending a general readjustment in regard to the whole subject.

"Mr. Storrs: Without any question, relief from the imposts that are made upon the public utility, the regulation of competition to the point that we know what that competition may amount to, the granting of the right to discontinue, either temporarily or for a long time, the essentially unprofitable lines, the giving to the utilities by the public of a subsidy to enable them to continue operation of those unprofitable lines, thereby bridging over the period of reconstruction, and a recognition, always, of course, going with that, by the public of the essential need of the change, and a willingness to pay the increased rates of fare—an increased rate of return, relief from imposts, regulation of competition, and the privilege of discontinuing service that is so unprofitable as to be really a non-essential service.

"Commissioner Sweet: If I understand you correctly, the mere increasing of rates at the present time would not be even a temporary remedy.

"Mr. Storrs: In my opinion, no.

"Commissioner Sweet: In that respect, you differ from some other witnesses who have appeared before this Commission.

"Mr. Storrs: Well, the effect of an increase in rates in various communities is different. It differs all over the country. It so happens that in parts of Connecticut, doubtless by reason of the fact that the distances are so relatively short, there is a greater falling off in traffic than there would be at other points where the ride is, of necessity, longer and the need for the service more acute; but that has been our experience in parts at least of the New England territory."

Page
451

"Commissioner Sweet: Now, suppose further increases were made, would that materially increase the gross income of the company?"

"Mr. Storrs: I had felt in our company that it would not have a material effect upon our gross revenue.

"Commissioner Sweet: That is because your distances are not as great, and you think the people would walk or find some other means of transportation?"

"Mr. Storrs: Yes. You see, the perfected highway has been developed to a very great degree throughout that portion of New England.

"Commissioner Sweet: It is your thought that any further increase of rates would stimulate and bring about a greater use of the jitneys?"

"Mr. Storrs: Yes; decidedly."

Page
461

"Commissioner Gadsden: Does not your own experience in Connecticut tend to prove the fact that if you will stick out long enough you are going to get the money?"

"Mr. Storrs: That is true.

"Commissioner Gadsden: You put in a 6-cent fare, and for a year you could get no result, but at the end of eighteen months you got 14%. Now, don't you think that that is true, as a general proposition, if we stay by the fare?"

"Mr. Storrs: That may be true.

"Commissioner Gadsden: That we will sell the transportation at a higher price.

"Mr. Storrs: That is probably true.

"Commissioner Gadsden: It has been true in connection with your property?"

"Mr. Storrs: It has been true in our property, certainly."

Mr. Storrs' testimony before the Commission was given in July, 1919. In a letter dated December 6, 1919, transmitting to the Commission detailed information as to the traffic and revenues of the Connecticut Company during the period of fare increases, he said:

"The reason for the lack of effective result upon gross revenues of an increase in rate of fare is due not at all to the fact of the increase in the rate, but to the fact that it was established during the period in which every industry in Connecticut was working to the very maximum of utility of the individual employe in turning out the essentials of war.

"Every man was engaged in some useful occupation and most of them working in overtime employment, the result being that they were so tired that there was none of the usual pleasure riding from which this company obtains great revenues during the summer months serving, as we do, the entire shore communities of Connecticut.

"Every woman was engaged in occupation, those who had a sufficient income to relieve them from the necessity feeling it their duty to take employment which could release men to more essential needs. Of course, the fact that the great number of the young men went into war service, mostly on the battle front, took away the incentive for pleasure riding and due to this one fact alone the revenue did not show any increase."

Mr. J. K. Newman, of New Orleans, was quite certain that time would justify fare increases. This is shown by his testimony at pages 560 and 561 of the Proceedings, which is as follows:

"Now about the increased fare, when we get it. The mathematical percentage of a 6-cent fare is 20 per cent. It is practically impossible to say from the past experience what that is yielding because when you get your receipts, showing as Mr. Bertron has said in some cases 30 per cent increase and in other cases only 5 per cent increase, that is mixed up with the prosperity or the lack of prosperity in a given community. In New Orleans, where we are getting about 30 per cent increase with a 20 per cent increase in fare, it is very largely due to an enormous prosperity brought on by war conditions and it is very hard to say which is which. But if you can just get the public mind convinced that they are getting a square deal now, that there will be no more pyramiding of securities and no more compounding and excessive flotations and excessive profits to the bankers, and convince them that they are paying only for what they get plus return on invested capital, I think there will be no objection at all to the increased fare nor will that mean eventually a material reduction in the riding. So I do look for considerable relief from the increased fare and I believe it will measure up very closely as time goes on to the mathematical proportion."

Mr. James D. Mortimer, President of the North American Company, struck a somewhat different note and pointed out the dangers to the electric railway business inherent in a shrinkage of traffic. His point of view may be seen from the following quotation from his testimony at page 809 of the Proceedings:

"Any business that is of a shrinking nature, where the volume of its market is decreasing, is necessarily not attractive to private investors, and the changes in fare agreements that have been generally made throughout the United States have, of course, produced a very great reaction upon the riding habit.

"There has been, in every case, after the lapse of a short period of time, an increase in revenues as the result of an increase in flat rates of fare. That is true. The increase has not in all cases been equal to the estimated increase resulting from the application of the new fare to the previous number of passengers.

"All important industrial centers are growing at a rapid rate. The riding habit ought to increase likewise at a rapid rate, but the increase in riding habit has been somewhat influenced by the increases in the flat rate of fare.

"Now, what the railway business needs is more business rather than less. If you liken the railway business to a manufacturing institution, with a relatively large overhead, the analysis of the manufacturer would be along the following lines: I have a large overhead. That overhead, distributed over my present volume of output, is too high per unit to permit me to sell in competition with other commodities of like use.

"The electric railway operator is faced with the proposal of increasing his selling price so high that competition from walking becomes most severe. The principal competitor of the electric railway business is walking. The number of cars to be operated by an electric railway in any given time should, in point of fact, be determined more nearly by the movement of people that are on the street, rather than by the number of people that are on the cars."

Further on, however, at page 816, in answer to questions by Commissioner Sweet, Mr. Mortimer expressed the opinion that increases in rates are necessary and that they will produce increased revenues:

"Commissioner Sweet: I do not know whether you have expressed the opinion that your maximum revenue would be reached by an increase of fare; in other words, whether the patronage would fall off as your fares advanced, so that you could not get much more revenue than you are getting now.

"Mr. Mortimer: I feel almost sure that almost any change in rate of fare upward would increase revenues. I am confident of that.

"Commissioner Sweet: The falling off in riders would not equalize the gain in fare?

"Mr. Mortimer: No; I am very sure of that.

"Commissioner Sweet: You think the increase in fares would be, at present, at least, very helpful to the companies throughout the country?

"Mr. Mortimer: There can be no doubt about it."

Dr. Thomas Conway, who has made a considerable study of the effect of fare increases on traffic and revenues, described the results obtained on the Public Service Railway system, and on the lines of the Connecticut Company, and expressed grave doubts as to the ultimate success of the policy of fare increases in meeting the additional labor costs which, in his opinion, are sure to come in the immediate future as a result of the top-notch awards made during the summer of 1919 on some of the lines. At page 952 of the Proceedings, he says:

"These 10-cent fares are to my mind the serious question. We have heretofore talked in terms of 6-cent fares and 7-cent fares, and latterly 8-cent fares, but these new wages mean 10 cent fares if you are going to stick to the straight cash fare.

"Now a 6-cent fare was a comparatively easy matter, but when you get to 10-cent fares, you are getting into deep water, and if the large cities must charge 10 cents, the rate of fare in the small towns is bound to be one which is practically prohibitive. In fact, the whole matter, I am afraid, would become impracticable on the basis of getting the full cost of operation, under present conditions, out of the car rider."

Further on, Doctor Conway referred to the effects of jitney competition in connection with fare increases in New Jersey and Connecticut, and at page 959 of the Proceedings described the situation in Bridgeport, with respect to which I have already quoted from Mr. Storrs. The witness says:

"In the City of Bridgeport, you have the most hopeless condition I have ever seen with reference to the jitneys. The jitneys, in Bridgeport, in April of this year, when we made a very careful check of the matter, were handling just a little under two-thirds of the total people riding, either on trolleys or jitneys, in the city. They have a 6-cent fare there. The jitneys are charging 5 cents. With the jitneys, you have a large amount of short-distance travel in the city.

"The figures on Waterbury, Hartford and New Haven, where the average journey is greater, show a much more healthy condition; but my point is that, with a one-cent differential throwing more than half of the total business of the city to the jitneys, it is idle to talk about 7, 8, 9, or 10-cent fares. It is just an exercise in arithmetic. You might as well close up shop and stop operating, and let the jitneys haul all the business."

Still further on, at pages 960 and 961 of the Proceedings, he continues:

"The point I want to make is this: You have various factors that have to be considered, which I want to lay before you as controlling elements, I think, in helping to work out a solution of this question.

"In the first place, there is a large amount of the street railway business which is what I call convenience riding. It is not necessity riding. I refer to the man whose journey is less than a mile. He can walk, and he will walk, when you get to a certain point with your fare.

"In some cities, taking the country as a whole, I think you now get better results from the 6 cents than you did two years ago. People are used to it; they expect it, and they think it is fair. There is not any of that spite walking, as I sometimes call it—walking to spite the company. Six cents does not mean as much. Men will pay 6, 7, 8, 9, or 10 cents for cigars and everything else, and they are used to it.

"The City of Schenectady, for example, showed a theoretical increase of 20% when they put the 6-cent fare in, while some cities very similar to that, in New York State, did not show anything like that when they put the 6-cent fare in. But I am not talking, in most cases, for the immediate future, about 6-cent fares. They are almost as out of date as 5-cent fares are. The thought that I want to leave in your minds is what is going to be the effect of the 10-cent fares and the 9-cent fares. That is where the fare equation is being carried by this labor development that is here and ahead of us. What is that going to do with the companies in the little towns, where everybody lives within 15 minutes of his work, and walking is easy, and what is going to be the effect of it on the amount of riding in the big cities?

"I have some interesting figures, which I got just before I left Philadelphia, from Boston, concerning the effect of various raises there. Their lines, in the first few days of 10-cent fares, showed approximately 60% increase over the 5-cent revenue. Eight-cent fares, which were in effect in December, 1918, to June, 1919, showed from 36 to 46% increase over the 5-cent revenues. The 7-cent averages ran from—well, I will leave out October, when they had the influenza epidemic—from 12 to 21% increase over the 5-cent fares.

"Now, Boston, from my knowledge of the property, and from general knowledge of other cities, ought to show much better results with these high fares than any city I know of, because of the fact that there is very little riding in the shopping district of Boston, the cars are all run underground, a large part of the surface tracks are pulled up in the center of town, and yet there they do not get a theoretical increase.

"Mr. Warren: There is no jitney competition there?"

"Mr. Conway: There is no jitney competition there. The long distance riders are flocking to the railroad trains, to a point where they are embarrassing the railroads, taking advantage of the commutation rates, and a great deal of walking has developed.

"Now, these are facts which we cannot ignore. The increase in fares drives a continually larger number of people away, and I think it would be unfortunate if the impression grew up in your minds that it is a matter of an arithmetical average, that by dividing the operating expenses by the number of people and getting a result, and saying that all you have to do is to put the fare up to that level, you solve the problem. It is very far from being that, with the high costs of the immediate future, as I see it.

"Now, on the other hand, if I am correct in my belief that the companies should be allowed to quickly readjust their fares to take care of these increasing expenses, the halter should be taken off, and they should be told to go ahead and try to work this out, put in any change in rates, and allow the commissions to revise and correct any inequalities later on.

"I do not mean to infer that the companies should not increase their rates by increasing

the flat unit of fare. There are only two ways to get this. One is a flat increase in the unit of fare, and the other is some sort of a zone system.

"Now, speaking generally, if you are to face that emergency, you will have to have a simple remedy, and a simple remedy is to increase your flat unit of fare, and that, I think, is what the industry will have to do.

"Now, whether that will solve the question is a far more serious matter. Whether 10-cent fares, with loss of riding that it occasions, is the answer, is, in my opinion, a far less settled question, but this much I am certain about: A zone system, applied under conditions of heavy urban traffic, such as you have in our large cities, is in this country still in an experimental stage."

The Cumberland County Power & Light Company, of Portland, Maine, has put into effect a zone fare system with a minimum charge of nine cents, if paid in cash for any ride up to three zones, and a ticket fare of seven cents. The fare for each additional zone is three cents if paid in cash or $2\frac{1}{3}$ cents by ticket. Mr. A. H. Ford, Vice-President and General Manager of the company, testified that all but about five per cent of the riders provide themselves with tickets. He described the methods used by the company in putting its claim for increased fares before the public, and stated that the company had secured a good degree of cooperation in putting the higher rates into effect. However, he was not by any means sure that the company was out of the woods yet, as will appear from the following testimony found at page 362 of the Proceedings:

"Commissioner Sweet: And you feel that you have solved the problem, or don't you?"

"Mr. Ford: I would not like to say that. I hope we have. I believe that we have gotten a rate that the people are going to support, and that gradually we shall work out of our difficulties. It is going to take time, but I believe that a rate can be put to such a point that you will spoil your whole proposition and raise it too high."

The ideas expressed by Mr. Mortimer in the first extract from his testimony quoted above were closely seconded by Chairman W. D. B. Ainey, of the Pennsylvania Public Service Commission, who laid special emphasis on the fact that the electric railways have something to sell, namely, car rides. His views are set forth at pages 1397 and 1398 of the Proceedings, in the following statement:

"In two recent addresses I have discussed at some length the influence of the rate of fare on the riding habit and have sought to emphasize the fact that the street railway companies might profit by the merchant's experience and methods. Having car rides to sell, why should not the companies adopt adequate methods for selling the rides? * * * * Increased rates have in many instances been followed by a flattened curve in the number of car riders. It has been pointed out, of course, that that flattening of the curve has at times been caused by unusual conditions, for instance, the winter of 1917-18, the draft and by the later epidemic, and undoubtedly these had very material influence upon the riding habit at particular times.

"And it has also been noted that the jitney and private automobile have taken away a considerable number of patrons. Nevertheless there remains a very appreciable number who have been influenced by the rate of fare, and of course, no business house would be content to lose such a large percentage of its customers without making a stupendous effort to retain them. Many of these lost patrons would not be casual ones but permanent ones. Is it worthy of suggestion to the railways that in some localities monthly commutation tickets at a lower rate might be established, as the railways have done?"

"This matter must be measured not only in the terms of the revenue of the company but by the potential good will that is reflected in local political sentiment and otherwise. I look upon the loss of car riders as being a serious menace to the well-being of any company, and it is not an answer which should satisfy the companies that increased fares give them a revenue sufficient to meet their needs if it has to be secured from selected patrons at the loss and consequent cost of a considerable number of their former patrons."

Mr. John A. Beeler, consulting transportation engineer, and formerly for many years in charge of the Denver Tramway system, expressed the opinion that economies should be tried first, and then, if an increase of fare proved to be necessary, it should take such a form as not to drive away traffic, especially

the profitable short-haul riders. His position was set forth at page 1673 of the Proceedings, in the following manner :

"If after everything has been done to increase business, effect operating economies, and lower taxes to a normal basis a deficit still remains after providing for the necessary and proper fixed charges, a raise in the rates of fare should be granted. There are a number of ways to do this, as follows :

- (1) A charge for transfers ;
- (2) An increase in the flat rate ;
- (3) Zone fares, or fares based on distance.

"A one-cent charge for transfers will usually yield from three to five per cent additional revenue. An increase in the flat rate of fare can scarcely be called a success as yet. An increase of one cent usually leads to two or three, and as the flat rate goes up the number of riders decreases correspondingly. A number of cities have gone to ten cents with disappointing results financially. High fares encourage walking, and the short-haul patron disappears. He is the only profitable customer the street railway has had in years. Lose him and the entire burden falls on the shoulders of the long-haul patron, who must thereafter produce the entire revenue. One who lives beyond the walking limits suffers most, for he must ride while the others can walk.

"As patronage diminishes the company naturally operates fewer cars and the space between them becomes greater. The service consequently deteriorates and the whole city suffers, but no one suffers as much as those who live far out. As the patronage falls off the expenses must be shared by fewer and the rates of fares keep going higher. Outside property values will undoubtedly feel the most disastrous effects.

"Provided the fare has to be raised it should be done so as to retain and encourage the short-haul rider, develop community riding and increase the receipts. Experience has shown that a high flat rate does not accomplish this. The successful merchant gives an apt illustration when with rising costs he reduces the contents of the package and keeps the price the same or even lowers it."

Mr. Frederick J. MacLeod, at that time Chairman of the Massachusetts Public Service Commission, stated at page 1439 of the Proceedings :

"Recent fare increases in Massachusetts have been greater, both in number, variety and extent, than in any other state, and the effects of such increases upon traffic and revenue are deserving of careful consideration by street railway officials and public authorities in other states. I am submitting herewith a tabular statement showing the various fare increases allowed in the case of eleven principal street railway companies since 1914, with the comparative revenue results under successive fare schedules."

He then referred to the fluctuations in revenue due to weather conditions, the influenza epidemic, increases or decreases in service and car miles, the development of jitney competition, the increased use of private automobiles, and the disturbance of ordinary economic and social conditions during the war period, and continued :

"Making every allowance, however, for the influence of these conditions, if the revenue results of the companies which increased their fares are compared from year to year with those of other companies which made no fare increase during the same period, there is little evidence to indicate that an increase of rates offers a panacea for the present ills of our street railway companies. In some years the companies increasing their rates have shown a smaller gain in revenue than those which retained the former five-cent fares, and if the revenues for the year ended June 30, 1919, are compared with the revenues for the year ended June 30, 1914, in order to show the cumulative effect of all increases allowed, it appears that the ten companies which increased their rates during this period show an average increase in passenger revenue of 31.92 per cent, while the remaining company which retained its former five-cent fares, showed an increase of 24.16 per cent during the same five-year period. If, in order to afford a fairer basis of comparison, the Boston Elevated Railway is excluded, it appears that the normal increase of traffic on the Union Street Railway under the old 5-cent fare yielded a greater increase in revenue than was received on the average by the other nine companies as the result of their successive fare increases."

The Massachusetts Public Service Commission's conclusions as to the relative merits of further fare increases on the one hand, and public subsidies from

taxation on the other, were clearly set forth by Mr. MacLeod at pages 1450 and 1451 of the Proceedings, as follows:

"In our judgment street railway service should be supported through the fares paid by the car riders in so far as this can reasonably be done without unduly interfering with the freedom of traffic which is essential for the business prosperity of the communities served. But when fares have been raised to a point where a further increase is likely to prevent the public from availing themselves with reasonable freedom of the service and facilities furnished, and where the burden upon the car riders is likely to be wholly disproportionate to any revenue benefits received by the company, any additional revenue needed to maintain the service should, we believe, be contributed by the communities served out of the general tax levy. I believe that where rides of substantial length are furnished, there would be little public protest and little diminution of riding if fares were established on the basis of 6 cents, or possibly higher. If that is so, and the fact can only be determined in the light of experience in each particular case, there is no convincing reason, on account of historic reasons or a mere accident of coinage, for preserving fares at the old 5-cent level. There are, however, manifest advantages as a matter of convenience as well as a matter of psychology, in retaining the 5-cent unit of fare and that may prove to be the wisest policy. The present policy of constant raises in fares, resulting in large traffic losses and little or no advantages to the company, is not only a grave menace to the prosperity and welfare of the whole community, but is wasteful in the extreme. As the burden of the increased cost of operation is surely heavy enough in itself the existing economic scheme which in effect doubles or trebles that burden for the car rider should no longer be tolerated. Any excess revenue required above that which can be obtained under a reasonable system of fares should be directly contributed out of public taxation.

"What I mean by that is the fact that if you start with the theory that the public have got to support the cost of the service, and the car rider has got to reach into his pockets and pay out \$20 in fares, in order to get anywhere from \$2 to \$10 into the treasury of the company, you are simply creating a condition where, instead of the car rider meeting the legitimate advances in the cost of operation and reflected in his car fare, he is obliged to pay for them three or four times over; and that is something for which nobody gets any benefit, and the whole community suffers; and the car rider, as I believe, as the individual, is the least sufferer.

"The community itself, where the freedom of traffic, the mobility of labor and all that sort of thing is adversely affected, is by far the more serious sufferer, more so even than the individual car rider who may have to pay, through increased fares, three or four times as much as the increased cost of living and the increase of prices would seem to warrant.

"Under that plan the financial drain upon the communities served would be enormously less, and the advantages resulting from the free movement of traffic would inure mainly to the benefit of the merchant, the manufacturer and the real estate owner, and would thus more than offset any amount paid through increased taxation. Any payments so made, it is true, are likely to be passed on to the ultimate consumer through increased rents and higher prices paid to the local merchant, or, broadly speaking, to the same class of persons who constitute the present body of car riders, but the economic waste under the existing system will be eliminated."

Mr. Homer Loring, Chairman of the Board of Public Trustees for the operation of the lines of the Eastern Massachusetts Street Railway Company (the Bay State System), testified that in the process of raising fares and changing from the flat fare system to the zone system of fare collection the Bay State company stopped counting the number of revenue fares collected or revenue passengers carried, with the result that no exact statistics are now available to show what effect the radical fare increases have had upon the traffic of that system. On the Bay State lines the old 5-cent fare was discontinued on all zones outside of the cities in October, 1916, and a 6-cent fare substituted therefor. In October, 1917, the 6-cent fare was installed in the city zones, but with the provision that 20-ride tickets should be sold for a dollar. In June, 1918, a new zone system was inaugurated. The 6-cent fare was continued in the city zones, but they were reduced in size, and the outside territory was divided into mile zones and the equivalent of a mileage rate was established with a minimum fare of six cents. In January, 1919, this zone system was modified by the expansion of the

size of the city zones and by the practical doubling of the length of the interurban zones, with a cash fare of ten cents in the cities, and of five cents per zone in the country with a minimum of ten cents; but 7-cent tickets were sold in strips of five. On July 1, 1919, these tickets were withdrawn. This left the cash fare at ten cents in the cities and five cents per zone on the country lines with a minimum of ten cents.

Commenting on the results of these fare changes and increases, Mr. Loring stated in his testimony that in April and May, 1919, with a 10-cent cash fare and 7-cent tickets in effect in the city zones, the company's earnings showed an increase of 36 or 37 per cent over two years before when the city fare was five cents and the country fare six cents. He stated that during July, 1919, with a straight 10-cent fare in effect, the revenues were only 18 per cent greater than two years before when the 5-cent fare was still in effect in the city zones, and in August, 1919, the gain over two years before was only 25 per cent. The Board of Trustees, he said, had drawn the conclusion that somewhere between seven and ten cents the Eastern Massachusetts Street Railway Company had "passed the economic point for getting the largest amount of earnings out of our population." Commenting upon the fact that the principal communities served by the Bay State lines are industrial cities in which the average ride is probably not more than a mile and a quarter, he made the following statement at page 1643 of the Proceedings:

"We have come to the conclusion that that is responsible, to a very great extent. All you have to do is to go in the hours of the morning and see the people walking, to fully appreciate that the right to fix fares on our road, and to raise them, is not a very valuable right. We have passed the point and must reduce. We have gone beyond it for all time."

He stated that the Board of Trustees were experimenting with different rates of fare in different communities with the idea of discovering what fare would bring the maximum amount of revenue. With respect to the falling off of traffic he said:

"We installed fare boxes a year ago, which count the money instead of counting the passengers, and the result is that at that time we entirely lost count. We have made some very close estimates in certain cities. We are taking the cities and studying them one at a time, and we find that, taking July and August, with the 10-cent fare and two years prior with the 5-cent fare, we have lost in many cases as much as forty per cent of the traffic—forty per cent of the passengers are actually walking or finding some other means of conveyance, less than two years ago."

Mr. Loring in his testimony called attention to the much more favorable results that have been obtained from the 10-cent fare on the Boston Elevated Railway Company than on the Bay State lines. In this connection, at page 1644 of the Proceedings, he said:

"Take the Boston Elevated Railroad with an average haul supposed to be over four miles, and the results which they have obtained from the 10-cent fare have been, I consider, exceedingly satisfactory. They made a 31 per cent gain in August with a 10-cent fare, as compared with 7 last year. There is 31 per cent from a theoretical 45. They told me that in September they were making a much larger gain, part of which they attributed to the influenza last year; but if there is anything we can conclude from their experience and ours in the same general territory, it is that the successful results from raising fares are very much in accordance with your average haul. Is it easy for the people to walk? If so, they will. If the distance is longer you will get better results."

And again, at page 1649 of the Proceedings, he said:

"I feel that the Boston plan is working as well as those who studied it beforehand and who really formed their expectations by careful study anticipated."

The American Electric Railway Association submitted to the Commission a Compilation, dated August 9, 1919, purporting to show the "effect of increased rates of fare on passenger revenues" in the cases of 125 companies.¹ In this tabulation the dates and nature of fare increases were given in the case of each company. Then a statement was made for each month subsequent to the first fare increase showing the percentage increase or decrease in passenger revenues as compared with the corresponding month of the preceding year. In many cases this was compared with the theoretical increase in the rates of fare. Among the numerous cases described in this tabulation, instances can be found tending to prove almost anything with respect to the effect of fare increases upon revenues, even to support the theory inadvertently advanced in certain instances that an increase in fare has stimulated traffic. The tabulation shows a good many instances where revenues have increased by a larger percentage than the fares charged, and a good many other instances where an increase in fares was followed by an actual falling off in revenues for the time being. Still, the general trend unquestionably indicates that fare increases are usually followed by an increase in revenues, and that after the lapse of considerable time traffic is likely to get up to its old level. The difficulty with the Association's compilation is that each case is set down by itself without anything to indicate its relative importance, and the comparisons in most cases begin with the late months of 1918, when traffic was low, and continued to May or June, 1919, when traffic was high, thus giving the impression that the car riders who had been driven away at first by the fare increases gradually came back.

This inconclusiveness is illustrated by the figures cited for the Milwaukee Electric Railway & Light Company, at page 18 of the compilation. In this case the theoretical increase in fare that went into effect June 1, 1918, was 17.65 per cent. The "actual per cent increase" in passenger revenues is given for each month from June, 1918, to June, 1919, inclusive, with the qualifying note attached: "Normal increase in riding accounted for." This seems to indicate that percentages have been adjusted to show what the company or the compiler thought was the actual increase in revenues due to the fare increases entirely aside from the effect of the normal growth of traffic, although for each month from January to May, 1919, the increase in revenues was shown to be at a higher percentage than the increase in fare. But the last month given is June, 1919, which compared with June, 1918, shows on the tabulation an increase of 14.85 per cent. As the fare increase was effective June 1, 1918, the increase from June, 1918, to June, 1919, must have resulted from the normal growth of traffic, except to the extent that traffic driven away at first by the fare increase had come back. A comparison of several months with the corresponding months of the preceding year, and without any adjustment for the "normal increase in riding" shows the following results:

<i>Month</i> (1919)	<i>Theoretical increase based on increase in rate of fare</i>	<i>Actual increase in passenger revenues</i>
March	17.65%	24.40%
April	17.65%	26.99%
May	17.65%	24.97%
June	0	15.78%
July	0	13.72%
August	0	14.55%
September	0	13.98%

If these figures indicate anything, it is that not more than 10 per cent or 12 per cent of the increase in revenue was due to the increase in fares, and that the balance was due to the extraordinary traffic development that characterized the year 1919 throughout the country.

In the case of the Hornell Traction Company, of Hornell, N. Y., the comparisons given extend over a period of more than twelve months under the higher fare without a second increase. This is shown at page 25 of the tabulation. The Hornell increase was from 5 cents cash and $4\frac{1}{16}$ -cent tickets to a straight cash or ticket 6-cent fare, which would probably give an increase of about $33\frac{1}{3}$ per cent in the average fare paid. The raise came in December, 1917. Assuming that the percentages shown in the tabulation are correct, the comparison for the first six months of 1919 should be as follows:

<i>Month</i> (1919)	<i>Theoretical increase based on increase in rate of fare</i>	<i>Actual increase in passenger revenues</i>
January	0	14.70%
February	0	6.64%
March	0	9.08%
April	0	12.36%
May	0	12.52%
June	0	32.17%

The increases in revenue indicated are apparently the result of traffic development, as the fare was exactly the same during the months with which the comparisons are made.

It is interesting to compare these increases under the six-cent fare with the increases shown at page 26 of the compilation in the case of the Cumberland County Power & Light Company, of Portland, Maine. In Portland, the revenues under the higher fares are compared with those of the corresponding months of the preceding year under a 5-cent fare in the city and a 6-cent fare on the suburban lines. The figures show the following:

<i>Month</i> (1919)	<i>Theoretical increase on account of increase in rate of fare</i>	<i>Actual increase in passenger revenues</i>
January	20%	13.7%
February	20%	19.6%
March	20%	14.3%
April	20%	20.7%
May	20%	16.5%
June	40%	25.6%

Here we see a 25.6 per cent increase of revenue in June, with a 40 per cent increase in fare over the preceding June, while in Hornell, N. Y., there was an increase of 32.17 per cent in revenue and in Milwaukee an increase of 15.78 per cent in revenue without any intervening change in the fares.

Still another case included in the tabulation where the period of comparison extended over more than twelve months is that of the Ft. Wayne & Northern Indiana Traction Company. In Ft. Wayne the 6-for-a-quarter tickets were abolished and the straight 5-cent fare instituted March 9, 1918. This is described as a 20 per cent increase in the rate, although this would not be true except on the assumption that before the increase all the car riders used tickets. However that may be, it is evident that when we get to April and May, 1919, the theoretical increase in revenue over the corresponding months of the preceding year would be zero, not 20 per cent as stated, and it would seem that the actual increase in revenues of 31.6 per cent in April, and 24.6 per cent in May, 1919, was not due primarily to the fare increase in March, 1918, but to other causes.

The figures I have cited do not prove affirmatively and conclusively that fare increases decrease traffic or that they do not increase revenues, but they suggest that the figures submitted on behalf of the American Electric Railway Association need to be closely scrutinized before they are accepted as proving that traffic lost on account of fare increases "comes back."

In view of the great divergence of opinion expressed by the different witnesses coming from different parts of the country and representing different interests, and in view of the inconclusive character of the comparisons submitted by the American Electric Railway Association, it was evident that no clear and certain conclusion could be drawn as to the effect of fare increases upon traffic and revenues from the testimony and the exhibits presented at the hearings. At the same time, it seemed to me that the Commission could not afford to bring out its report and make its recommendations for the solution of the electric railway problem without first ascertaining as definitely as possible the facts with respect to the actual effect of fare increases during the past two or three years so far as those facts are available. For this reason, the Executive Secretary, at my suggestion, sent out at the beginning of December, 1919, a special letter addressed to about fifty of the principal cities and street railway systems of the country stating that the Commission was in need of "more detailed data with respect to the development of traffic under varying conditions during the past two or three years in order to be able to reach an intelligent conclusion as to the effect of fare increases upon the future of the electric railway as a public utility," and that it desired "to make comparisons between cities and street railway systems where fares have not been increased, and cities and systems where they have been increased." For these reasons the following specific information was requested:

1. The total number of revenue passengers carried, by months from January 1, 1917, to date.
2. The gross passenger earnings, by months from January 1, 1917, to date.
3. The exact dates when any changes in fare went into effect, and the exact nature of such changes.
4. The exact dates and duration of any strikes of conductors and motormen that may

have occurred subsequent to January 1, 1917, and the extent to which traffic was interrupted by such strikes.

5. Any other important factors peculiar to the local situation which had a marked effect upon traffic either to increase it or to decrease it at any time subsequent to January 1, 1917.

In response to these special letters sent out at the beginning of December, and to similar letters subsequently addressed to a number of additional companies, the information requested was received for electric railway systems which in 1917 carried approximately 75 per cent of the total electric railway traffic reported for that year by the Bureau of the Census. The traffic and revenue statistics have been tabulated and analyzed so as to show for each city or system the number of revenue passengers carried, and the amount of gross passenger revenues collected during the first nine months of 1917, the first nine months of 1918, and the first nine months of 1919. The average fare paid during each of these three periods has been determined by dividing the number of revenue passengers into the gross passenger revenue. Fare increases are shown in the form of the percentage of increase in the average fare paid during the first nine months of 1919 as compared with the first nine months of 1917. In like manner, increases or decreases in traffic, and increases or decreases in passenger earnings between these two periods have been figured out on a percentage basis.

The figures show that 1918 was generally a low traffic year. Many of the big electric railway systems of the country showed an actual decrease in the number of revenue passengers carried in 1918 as compared with 1917. This was true even where the comparison was limited to the first nine months. The shrinkage of traffic in 1918 was even more pronounced during October and November on account of the widespread effect of the influenza epidemic. Among the important cities or systems that showed an actual decrease in traffic during the first nine months of 1918 as compared with 1917 were New York, with a decrease of .87 per cent; Chicago, with a decrease of nearly 2 per cent; Boston, with a decrease of a little more than 5 per cent; Detroit, with a decrease of about 13 per cent; Cleveland, with a decrease of more than 4 per cent; Pittsburgh, with a decrease of about 12 per cent; St. Louis, with a decrease of 5 per cent; Minneapolis and St. Paul, with a decrease of 6 per cent; the Connecticut railway lines serving New Haven, Hartford, Bridgeport and other cities, with a decrease of more than 16 per cent; the Kansas Cities, with a decrease of about 2 per cent; Buffalo, with a decrease of nearly 9 per cent; the New York State Railways system serving Rochester, Syracuse, Utica and other cities, with a decrease of over 2 per cent; and Cincinnati, with a decrease of more than 3 per cent.

On the other hand, certain cities and systems showed a considerable increase in traffic during the first nine months of 1918 as compared with the first nine months of 1917, notwithstanding the adverse conditions that affected street railway traffic generally. These particular increases were undoubtedly due in most cases to the local development of war industries or the presence of military training camps in the vicinity. Notable among the cities and systems that showed an actual increase in traffic were Philadelphia, with an increase of about 8 per cent; the Public Service Railway system of New Jersey, serving Newark, Jersey City, Elizabeth, Paterson, Bayonne, Camden and other cities and towns, with an increase of not quite 2 per cent; Baltimore, with an increase of over 8 per

cent; Los Angeles, with an increase of more than 10 per cent; San Francisco, with an increase of 16 per cent; Washington, D. C., with an increase of 33 per cent; Milwaukee, with an increase of less than 1 per cent; New Orleans, with an increase of 5 per cent; the San Francisco-Oakland Terminal Railways, serving Oakland, Berkeley, Alameda and other East Bay cities and towns, with an increase of 10 per cent; the Virginia Railway & Power Company, serving Richmond, Norfolk and other Virginia cities, with an increase of about 22 per cent; Seattle, with an increase of nearly 32 per cent; and Portland, Oregon, with an increase of 18 per cent.

Taking all of the cities and systems together, for which the detailed figures were obtained, the aggregate traffic during the first nine months of 1918 was practically the same as for the corresponding period of 1917. For the first nine months of 1919, however, traffic came back with a bound almost everywhere except in cities or upon systems where heavy increases in fare had been put into effect in the meantime. For the entire group of cities and systems for which the detailed figures were obtained, the traffic during the first nine months of 1919 showed an increase of about 7 per cent over the traffic for the corresponding period two years earlier. This increase for the two-year period, averaging $3\frac{1}{2}$ per cent per annum, is only slightly less than the ordinary average growth of street railway traffic over the period of ten years preceding 1917. On the face of the figures, it would appear that, taking the country as a whole, the fare increases that were in effect during the first nine months of 1919 were not sufficient to prevent a substantially normal development of traffic. But there are indications in many parts of the country that without the increased fares the development of traffic in 1919 would have been abnormally large. It is only by a comparison of the results in particular cities or on particular systems where fares were not increased, with the results in other cities or on other systems where fares were increased in varying amounts, that we may hope to get anything like a clear or decisive answer to the main question raised by this inquiry. The comparative figures with respect to traffic in relation to fare increases for each of the important cities and systems for which the detailed figures are available is shown on Table I entitled "Analysis of Traffic on Principal Street Railway Systems of the United States showing relation of Revenue Passengers to Fare Increases, based on data collected by the Federal Electric Railways Commission."

Similar figures with respect to gross passenger earnings in relation to fare increases are shown on Table II entitled "Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States showing relation of Passenger Revenue to Fare Increases, based on data collected by the Federal Electric Railways Commission."

It will be observed that an effort has been made to show on Table I and Table II the traffic and revenue figures complete for each of the principal urban communities or districts of the country. For example, New York City has been treated as a unit, although in point of fact about forty individual companies are rendering street railway service within the limits of Greater New York. In most of the cities a single company has a complete or nearly complete monopoly of street railway transportation service, and in many cases two or more cities are

TABLE I—PAGE 1.

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Passengers 1st 9 mos. 1917	Average Fare Per Revenue Passenger— CENTS	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Revenue Passenger— CENTS	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Revenue Passenger— CENTS	Percentage of Increase in Revenue in Passen- gers—1919 over 1917	Percentage of Decrease in Revenue in Passen- gers—1919 over 1917
1. NEW YORK CITY**								
Inudson & Manhattan R.R. Lines.....	52,327,930	5.73	59,248,777	5.65	68,445,358	6.11	30.80	
Interborough Rapid Transit Lines.....	568,665,624	5.00	574,598,090	5.00	635,530,455	5.00	11.76	
B. R. T. Elevated and Subway Lines.....	179,606,749	5.00	213,733,003	5.00	241,815,395	5.00	34.64	
All Rapid Transit Lines.....	800,600,303	5.05	847,579,870	5.05	945,791,108	5.08	18.14	
New York Railways Lines								
(Including 8th Ave.).....	187,580,300	4.87	167,761,925	4.88	187,617,366	4.97	2.01	0.02
Third Avenue Railway System Lines (Including Yongkers and Westchester)	167,032,200	4.74	154,046,397	4.74	172,977,970	4.77	0.63	3.56
B. R. T. Surface Lines (Including Brooklyn City Railroad)	265,652,898	4.91	244,214,878	4.91	288,937,166	4.81	2.05*	8.76
Other Surface Lines	69,096,956	4.76	63,458,411	4.75	72,102,876	4.79	0.63	4.35
All Surface Lines	689,362,354	4.84	629,481,611	4.84	721,635,378	4.84	0.00	4.68
All Surface and Rapid Transit Lines in New York City.....	1,489,962,657	4.95	1,477,061,481	4.96	1,667,426,486	4.98	0.61	11.91
2. CHICAGO								
Elevated Lines	143,741,130	5.17	150,561,191	5.18	136,839,225	6.56	26.89	5.04
Surface Lines	523,376,743	4.99	504,690,078	4.99	551,381,266	5.37	7.61	5.35
All Lines	667,111,873	5.03	655,251,269	5.03	688,220,491	5.61	11.53	3.16
3. PHILADELPHIA								
Elevated, Subway and Surface Lines.	409,991,335	5.16	437,982,123	5.19	489,021,428	5.21	0.97	19.28
4. BOSTON								
Elevated, Subway and Surface Lines.	283,538,270	4.99	268,319,159	5.38	239,677,336	8.50	70.36	15.47
5. NEWARK, JERSEY CITY, PATER- SON, ELIZABETH, CAMDEN, ETC.								
All Public Service Railway Lines.....	268,384,308	4.99	273,179,128	5.04	242,182,829	7.00	40.28	9.69

* Indicates Decrease.

** The figures for the Interborough Rapid Transit Lines and for the B. R. T. elevated, subway and surface lines are compiled from information supplied to the Federal Electric Railways Commission by Frank Hedley, President of the Interborough Rapid Transit Company, and W. S. Menden, General Manager for the Receiver of the Brooklyn Rapid Transit Company and its subsidiaries. All other figures for lines operating in New York City are taken from the quarterly summaries of the reports of street railway companies published by the Public Service Commission for the First District, except that the figures for the third quarter of 1919 were copied from the records on file with the Commission, as the summary for that quarter had not been published prior to the preparation of this table. There are discrepancies between some of the figures reported to the Federal Electric Railways Commission by the two rapid transit companies and the corresponding figures contained in the Public Service Commission's summaries, with the result that the aggregate figures for all New York City lines shown on this table are not quite the same as the aggregate figures shown in the Public Service Commission's published summaries. These discrepancies are not sufficient to make any substantial difference in the main results shown by the analysis.

TABLE I—PAGE 2.

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Passengers 1917	Average Fare Per Revenue Passenger—1917 CENTS	Revenue 1917 189,910,804	Average Fare Per Revenue Passenger—1918 CENTS	Revenue 1918 184,910,804	Average Fare Per Revenue Passenger—1919 CENTS	Revenue 1919 184,910,804	Average Fare Per Revenue Passenger—1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Revenue—1919 over 1917
6. DETROIT										
Detroit United Ry.—One Fare Zone.	233,966,707	3.63	201,047,802	4.60	238,296,671	4.78	238,296,671	4.78	31.68	1.85
Detroit United Ry.—Interurban Lines	20,928,614	8.06	21,530,971	7.53	27,561,729	8.14	27,561,729	8.14	0.99	31.69
Entire Detroit United Ry. System	254,895,321	3.99	222,578,863	4.88	265,858,400	5.13	265,858,400	5.13	28.57	4.31
7. CLEVELAND										
(Cleveland Railway Lines)	218,108,253	3.40	209,418,836	4.00	212,581,057	5.24	212,581,057	5.24	54.12	2.53
8. PITTSBURGH										
Pittsburgh Railway Lines	199,799,054(1)	4.97	176,161,826(1)	5.74	174,352,989(1)	6.46	174,352,989(1)	6.46	29.98	12.73
(1) The figures given indicate revenue fares collected										
9. ST. LOUIS										
United Railway Lines	196,739,976	4.95	187,593,908	5.37	195,211,572	5.94	195,211,572	5.94	20.00	7.7
10. BALTIMORE										
United Railways and Electric Lines..	159,028,504	4.85	172,139,742	4.88	181,651,331	5.88	181,651,331	5.88	21.23	14.22
11. THE TWIN CITIES										
Minneapolis	89,984,329	5.00	84,166,430	5.00	92,708,035	5.00	92,708,035	5.00	0.00	3.02
St. Paul	55,178,090	5.00	52,536,669	5.00	60,868,043	5.00	60,868,043	5.00	0.00	10.31
Both—Twin City Rapid Transit Lines	145,162,419	5.00	136,703,099	5.00	153,576,078	5.00	153,576,078	5.00	0.00	5.79
12. NEW HAVEN, HARTFORD, BRIDGEPORT, ETC.										
The Connecticut Co. Lines.....	141,555,122	4.94	118,540,312	5.93	128,522,107	5.95	128,522,107	5.95	20.44	0.27
13. FALL RIVER, LOWELL, ETC.										
Eastern Massachusetts Street Railway Lines (Bay State System)										
NOTE: Revenue fares in 1917 were 188,067,687, or approximately 141,000,000 for the first 9 months, estimated on the average monthly basis. The average fare paid was 5.31c. Prior to October 9, 1916, the unit fare had been 5c. A zone system was put into effect June 24, 1918, and since then the company has not kept track of the number of revenue passengers. The unit rate of fare since July 1, 1919, has been 10c, cash in the city zones and 5c, cash in the interurban zones, with special ticket rates in certain communities										
14. LOS ANGELES AND VICINITY										
Los Angeles Railway Lines.....	89,534,769	4.93	99,946,633	4.99	106,261,432	5.01	106,261,432	5.01	1.62	18.68
Pacific Electric Lines.....	48,724,644	10.47	53,143,465	10.92	51,588,152	11.87	51,588,152	11.87	13.37	5.87
All Lines.....	138,259,413	6.88	153,090,098	7.05	157,849,584	7.25	157,849,584	7.25	5.38	14.16
15. SAN FRANCISCO										
Municipal Railway Lines.....	28,737,186	4.97	34,156,260	4.92	39,170,217	4.98	39,170,217	4.98	0.2*	36.30
United Railroads Lines.....	97,741,613	5.00	112,096,777	4.96	127,544,960	4.96	127,544,960	4.96	0.8*	30.49
All Lines.....	126,478,799	4.99	146,253,037	4.95	166,715,177	4.97	166,715,177	4.97	0.4*	31.81
16. BUFFALO, NIAGARA FALLS, ETC.										
International Railway Lines.....	113,609,101	5.25	103,752,141	5.48	119,740,900	5.59	119,740,900	5.59	6.47	5.39
17. ROCHESTER, SYRACUSE, UTICA, ETC.										
New York State Railways Lines....	109,721,679	5.51	107,243,539	5.61	107,784,111	6.12	107,784,111	6.12	11.07	1.76

* Indicates Decrease.

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases
Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Passengers 1st 9 mos. 1917	Average Fare Per Revenue Passenger— 1917 CENTS	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Revenue Passenger— 1919 CENTS	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Revenue Passenger— 1919 CENTS	Percentage of Increase in Revenue Passengers over 1917	Percentage of Decrease in Revenue Passengers over 1917
18. THE KANSAS CITIES								
Kansas City, Missouri	83,932,965	4.98	81,159,640	5.27	68,232,548	6.14	23.29	23.01
Kansas City, Kansas	16,406,749	4.98	16,664,938	5.11	13,963,368	5.24	5.22	14.88
Both—Kansas City Railways Lines	100,339,714	4.98	97,821,578	5.24	82,197,916	5.98	20.08	18.08
19. WASHINGTON, D. C.								
Capital Traction Lines	46,972,872	4.30	59,729,878	4.29	63,408,823	5.14	19.53	34.99
Washington Ry. & Electric Lines....	43,318,180	4.30	60,668,962	4.27	68,744,046	5.15	19.76	58.69
All Lines	90,291,052	4.30	120,398,840	4.28	132,152,869	5.14	19.53	46.36
20. MILWAUKEE								
Milwaukee Electric Railway and Light Lines	85,449,596	4.25	86,155,312	4.55	93,986,497	5.00	17.64	9.08
21. PROVIDENCE, PAWTUCKET, ETC.								
Rhode Island Co. Lines	84,467,863	4.96						
NOTE: On May 5, 1918, a zone system was put into effect. Since then the revenue passengers have been counted on a different basis, so that the figures for 1918 and 1919 are not comparable with those for 1917. On September 28, 1919, the unit fare was changed from 5c. to 6c., and the charge for transfers from 1c. to 2c., without any change in zones. The number of revenue passengers carried in September, 1919, (30 days) was 11,020,425, while the number carried in October (31 days) was 9,862,345, showing a decrease of more than 13% in the average daily traffic.								
22. CINCINNATI								
Cincinnati Traction Lines	82,631,009	4.97	79,799,923	4.97	81,059,828	6.02	21.12	1.90
23. NEW ORLEANS								
New Orleans Railway & Light Lines..	69,260,548	4.86	72,706,715	5.09	79,032,469	6.00	23.45	14.11
24. OAKLAND, BERKELEY, ETC.								
San Francisco-Oakland Terminal Railways Lines	57,805,617	5.88	63,639,544	5.98	64,877,797	6.88	17.01	12.23
25. INDIANAPOLIS								
Indianapolis Traction Lines	55,031,522	4.26	53,259,724	4.25	60,750,611	5.00	17.37	10.39
26. RICHMOND, NORFOLK, ETC.								
Virginia Railway & Power Lines....	54,630,318	4.75	66,541,697	5.02	73,463,000	5.09	7.05	34.47
27. SEATTLE								
Municipal Railway and Puget Sound Traction, Light & Power Lines....	53,504,761	4.72	70,393,054	4.92	75,960,360	4.98	5.51	41.97

TABLE I—PAGE 4.

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Passengers 1st 9 mos. 1917	Average Fare per Passenger 1917 CENTS	Revenue Passengers 1st 9 mos. 1918	Average Fare per Passenger 1918 CENTS	Revenue Passengers 1st 9 mos. 1919	Average Fare per Passenger 1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Passen- gers—1919 over 1917	
28. COLUMBUS, OHIO (Columbus Railway & Light Lines.....	50,406,073	3.24	45,178,408	3.39	52,682,219	3.31	2.16	4.51	
29. AKRON, CANTON, ETC. Northern (Ohio Traction & Light Lines	49,467,059	6.52	47,377,799	6.98	56,977,359	7.28	11.65	15.18	
30. WORCESTER, MASS., AND VICINITY Worcester Consolidated Street Rail- way Lines	49,049,904	4.94	45,582,009	5.21	43,309,315	6.43	30.16	11.70	
31. LOUISVILLE Louisville Railway Lines	NOTE: No information was furnished by the Louisville Railway Company as to its traffic or revenues. If the figures were available they would show about 49,000,000 revenue passengers carried during the first 9 months of 1917.								
32. OMAHA AND COUNCIL BLUFFS Omaha & Council Bluffs St. Ry. Lines	45,688,544	5.11	47,217,157	5.08	52,511,447	5.29	3.52	14.93	
33. DENVER Denver Tramway Lines.....	45,338,077	5.00	48,305,934	5.06	47,816,757	5.95	19.00	5.46	
34. PORTLAND, OREGON City Lines of Portland Railway, Light & Power Co.....	43,893,582	5.08	51,838,694	6.12	55,352,547	6.14	20.86	26.16	
35. TOLEDO Toledo Railway & Light Lines.....	43,178,868	4.31	38,846,108	4.73	41,453,499	5.63	30.65	4.00	
36. ATLANTA AND VICINITY Georgia Railway & Power Lines within 7 mile zone	42,171,415	5.00	53,335,492	5.00	56,427,064	5.59	11.80	33.80	
37. YOUNGSTOWN, OHIO AND VICINITY Mahoning & Shenango Railway & Light Lines	37,888,821	5.12	36,118,423	5.55	36,698,212	6.00	17.19	3.14	
38. SPRINGFIELD, MASS., AND VICINITY Springfield Street Railway Lines....	35,644,600	4.95	36,151,269	5.60	36,274,159	5.87	18.58	1.77	
39. ALLENTOWN, BETHLEHEM, ETC. Lehigh Valley Transit Lines.....	34,769,663	4.63	37,690,928	4.70	35,563,277	5.51	19.01	2.28	
40. MEMPHIS Memphis Street Railway Lines.....	31,185,675	4.99	30,701,713	4.99	34,991,207	5.39	8.02	12.52	

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Passengers 1917	Average Fare Per Revenue Passenger—CENTS	Revenue Passengers 1918	Average Fare Per Revenue Passenger—CENTS	Revenue Passengers 1919	Average Fare Per Revenue Passenger—CENTS	Percentage of Increase In Average Fare—1919 over 1917	Percentage of Increase In Revenue Passengers—1919 over 1917	Percentage of Decrease In Revenue Passengers—1919 over 1917
41. SPOKANE Washington Water Power Lines,.... Spokane & Inland Empire R.R. Lines	10,956,198	4.92	11,081,132	4.98	11,593,950	5.63	14.43	5.80	
NOTE: Figures for this system are not available. This company has been through a receivership, and the detailed records requested could not be furnished without more clerical work than the company was prepared to undertake. This system has a considerably greater mileage and carries a considerably greater number of passengers than the Washington Water Power Company. The total number of revenue passengers carried by all lines in and about Spokane for the first 9 months of 1917, if the complete figures were available, would be something over 30,000,000.									
42. BIRMINGHAM, ALA. Birmingham Railway, Light & Power Lines	29,846,954	4.93	29,269,562	4.97	34,273,258	5.07	2.84	14.83	
43. DAYTON, OHIO People's Railway Lines	9,029,145	4.29	10,059,960	4.38	10,164,616	4.78	11.42	12.58	
Oakwood Street Railway Lines....	2,926,512	4.27	3,290,554	4.30	3,488,281	4.76	11.48	19.20	
City Railway Lines } Dayton Street Railway Lines }									
NOTE: The revenue and passenger figures for the City Railway and the Dayton Street Railway have not been furnished to the Commission. If the exact figures for all four companies serving Dayton were available the aggregate number of revenue passengers carried during the first 9 months of 1917 by the street railways of this community would be approximately 28,000,000.									
44. CENTRAL MICHIGAN, SERVED BY MICHIGAN RAILWAY COMPANY Jackson, City Lines	5,850,851	4.65	5,150,337	5.33	5,434,806	5.93	27.53		7.11
Lansing, City Lines	5,008,727	4.70	4,576,665	4.84	5,614,226	5.53	17.66		12.09
Kalamazoo, City Lines	4,497,554	4.47	4,559,522	4.50	5,118,566	4.52	1.12		13.81
Battle Creek, City Lines.....	4,386,400	4.43	4,221,280	4.46	4,299,505	5.53	24.83		1.98
Owosso-Corunna, City Lines	243,892	5.00	248,024	4.99	263,985	6.55	31.00		8.24
All City Lines of Michigan Railway Co.	19,987,424	4.58	18,755,828	4.92	20,731,088	5.40	17.90		3.72
Interurban Lines of Mich. Ry. Co.	5,809,005	26.75	5,796,528	28.59	5,687,565	30.95	15.70		2.09
Entire Michigan Railway System	25,796,429	9.57	24,552,356	10.51	26,418,653	10.90	13.90		2.41
45. SALT LAKE CITY Utah Light and Traction Lines.....	25,510,649	4.63	24,416,673	5.11	24,605,337	5.49	18.57		3.55
46. DALLAS Dallas Railway & Oak Cliff Lines....	24,970,223	4.54	24,450,626	4.78	33,855,986	4.78	5.29		35.59
47. DES MOINES Des Moines City Railway Lines.....	23,445,067	4.55	25,443,479	4.70	26,371,094	4.88	7.25		12.48
48. NASHVILLE Nashville Railway & Light Lines....	22,012,483	5.01	25,516,892	5.12	28,032,224	5.14	2.59		27.35
49. SCRANTON Scranton Railway Lines	21,484,778	5.08	19,470,074	5.80	18,468,199	7.23	42.32		14.04
50. WILMINGTON, DEL. Wilmington & Philadelphia Traction Lines	20,289,998	4.87	19,673,706	5.45	20,649,475	6.02	23.61		1.77

TABLE 1—PAGE 6.

Analysis of Traffic on Principal Street Railway Systems of the United States Showing Relation of Revenue Passengers to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Revenue Per Month 1919	Average Fare Per Month 1919	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Passenger 1919	Revenue Passengers 1st 9 mos. 1919	Average Fare Per Passenger 1919	Percentage of Increase in Revenue Passengers 1919-1917	Percentage of Increase in Revenue Passengers 1919-1917
51. GRAND RAPIDS, MICHIGAN	19,498,885	4.99	20,918,033	6.62	19,568,259	5.83	16.83	0.36
52. ERIE, PA., AND VICINITY	19,336,629	6.02	20,918,033	6.62	18,641,243	7.87	30.73	3.60
53. HOUSTON	17,756,986	NOTE: Houston figures of average fare missing because figures for passenger revenue are not available.	22,628,415		25,609,898		44.22	
54. FORT WORTH	16,124,648	4.85	23,120,301	4.89	24,496,694	4.87	0.40	51.92
Interurban Lines	1,448,016	34.80	1,996,885	40.51	2,310,680	40.58	16.61	59.57
All Northern Texas Trac. Lines.	17,572,664	7.32	25,117,186	7.72	26,807,378	7.95	8.61	52.55
55. HARRISBURG AND VICINITY	17,309,396	4.90	19,166,460	4.91	19,504,823	6.01	22.45	12.68
Harrisburg Railways Lines	13,957,763	4.97	13,672,435	4.97	14,396,780	5.41	8.85	3.15
56. SCHENECTADY AND VICINITY	3,234,606	10.38	3,057,808	10.69	3,233,863	11.50	10.79	0.02
Interurban Lines	17,192,369	5.99	16,730,243	6.02	17,630,643	6.52	8.85	2.55
All Schenectady Railway Lines.	16,867,713	4.84	25,032,446	4.88	24,347,314	4.86	0.41	44.34
57. SAN ANTONIO	16,867,713	4.84	25,032,446	4.88	24,347,314	4.86	0.41	44.34
San Antonio Public Service Lines..	NOTE: The method of fare collection on this system does not at present permit the determination of the number of revenue passengers carried. The gross passenger earnings for the first 9 months of 1917, when the 5-cent fare was in effect, were \$88,382, indicating that the number of revenue fares collected during that period was approximately 17,167,640. A zone system of fares became effective August 2, 1918. The system was further changed March 2, 1919, and June 3, 1919. The last schedule provided for a cash fare of 3 cents per zone, with a 9-cent minimum charge, or a ticket fare of 2½ cents per zone, with a minimum ride of three zones on a 7-cent ticket.							
58. PORTLAND, MAINE, AND VICINITY	16,707,643	4.84	16,901,002	4.84	20,211,655	4.97	2.69	20.97
Union Street Railway Lines.....	15,304,987	4.28	14,708,440	4.27	13,598,832	6.00	40.19	11.15
59. NEW BEDFORD AND VICINITY	7,742,211	4.70	7,824,160	4.73	9,349,623	4.93	4.89	20.76
Union Street Railway Lines.....	6,599,696	21.48	6,350,174	24.29	6,180,906	30.56	42.27	6.35
60. TRENTON, N. J.	14,341,907	12.42	14,174,354	13.49	15,530,529	15.13	24.24	8.29
Trenton & Mercer County Traction Lines	13,132,660	4.74	16,393,268	5.52	15,706,196	6.83	44.09	19.59
61. TERRE HAUTE, IND., AND VICINITY	13,132,660	4.74	16,393,268	5.52	15,706,196	6.83	44.09	19.59
City Lines	14,174,354	13.49	14,174,354	13.49	15,530,529	15.13	24.24	8.29
Interurban Lines	14,341,907	12.42	14,174,354	13.49	15,530,529	15.13	24.24	8.29
All Terre Haute, Indianapolis and Eastern Traction Lines	13,132,660	4.74	16,393,268	5.52	15,706,196	6.83	44.09	19.59
62. TACOMA	13,132,660	4.74	16,393,268	5.52	15,706,196	6.83	44.09	19.59
Tacoma Railway & Power Co. Lines								

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Revenue Passenger—1917 CENTS	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Revenue Passenger—1918 CENTS	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Revenue Passenger—1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917
1. NEW YORK CITY**								
Hudson & Manhattan R. R. Lines.....	\$2,996,935.62	5.73	\$3,348,319.48	5.65	\$4,179,667.87	6.11	6.63	39.46
Interborough Rapid Transit Lines... 28,421,784.70	5.00	28,723,533.23	5.00	31,776,410.55	5.00	0.00	11.80	
B. R. T. Elevated and Subway Lines 8,984,232.80	5.00	10,690,594.04	5.00	12,094,451.21	5.00	0.00	34.62	
All Rapid Transit Lines.....	40,402,953.12	5.05	42,762,446.75	5.05	48,050,529.63	5.08	0.59	18.93
New York Railways Lines								
(including 8th Ave.).....	9,141,351.28	4.87	8,185,305.01	4.88	9,328,002.70	4.97	2.01	2.04
Third Avenue Railway System Lines	7,910,215.87	4.74	7,303,234.10	4.74	8,242,949.96	4.77	0.63	4.21
(including Yonkers and Westchester)	13,054,353.35	4.91	11,989,253.87	4.91	13,893,822.25	4.81	2.05*	6.43
B. R. T. Surface Lines	3,286,574.21	4.76	3,015,289.57	4.75	3,450,677.40	4.79	0.63	4.99
(including Brooklyn City Railroad)	33,392,494.71	4.84	30,493,082.55	4.84	34,915,452.31	4.84	0.00	4.56
Other Surface Lines	73,795,447.83	4.95	73,255,529.30	4.96	82,965,981.94	4.98	0.61	12.41
All Surface Lines	7,424,740.27	5.17	7,796,052.84	5.18	8,981,192.54	6.56	26.89	20.96
All Surface and Rapid Transit Lines in New York City.....	26,112,648.00	4.99	25,176,286.00	4.99	29,604,964.00	5.37	7.61	13.37
2. CHICAGO								
Elevated Lines.....	33,537,388.27	5.03	32,972,338.84	5.05	38,586,156.54	5.61	11.53	15.05
Surface Lines	21,168,746.48	5.16	22,742,502.74	5.19	25,466,994.58	5.21	0.97	20.30
All Lines	14,162,362.36	4.99	14,444,340.26	5.38	20,369,190.05	8.50	70.36	43.83
3. PHILADELPHIA								
Elevated, Subway and Surface Lines	13,379,488.46	4.99	13,768,150.17	5.04	16,942,840.32	7.00	40.28	26.63
4. BOSTON								
Elevated, Subway and Surface Lines	8,495,984.00	3.63	9,248,512.03	4.60	11,399,518.02	4.78	31.68	34.18
5. NEWARK, JERSEY CITY, PATERSON, ELIZABETH, CAMDEN, ETC.								
All Public Service Railway Lines...	1,686,946.41	8.06	1,620,989.81	7.53	2,244,182.87	8.14	0.99	33.03
6. DETROIT								
Entire Detroit United Ry. System	10,182,930.41	3.99	10,869,501.84	4.88	13,643,700.89	5.13	28.57	34.00

* Indicates Decrease.

** The figures for the Interborough Rapid Transit lines, and for the B. R. T. elevated, subway and surface lines are compiled from information supplied to the Federal Electric Railways Commission by Frank Hedley, President of the Interborough Rapid Transit Company, and W. S. Menden, General Manager for the Receiver of the Brooklyn Rapid Transit Company and its subsidiaries. All other figures for lines operating in New York City are taken from the quarterly summaries of reports of street railway companies published by the Public Service Commission for the First District, except that the figures for the third quarter of 1919 were copied from the records on file with the Commission, as the summary for that quarter had not been published prior to the preparation of this table. There are discrepancies between some of the figures reported to the Federal Electric Railways Commission by the two rapid transit companies and the corresponding figures contained in the Public Service Commission's summaries, with the result that the aggregate figures for all New York City lines shown on this table are not quite the same as the aggregate figures shown in the Public Service Commission's published summaries. These discrepancies are not sufficient to make any substantial difference in the main results shown by the analysis.

TABLE II—PAGE 2.

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Passenger—1917 CENTS	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Passenger—1918 CENTS	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Passenger—1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917
7. CLEVELAND Cleveland Railway Lines.....	\$7,425,361.93	3.40	\$8,381,506.28	4.00	\$11,136,974.15	5.24	54.12	49.98
8. PITTSBURGH Pittsburgh Railways Lines.....	9,934,592.00	4.97	10,117,483.00	5.74	11,269,485.00	6.46	29.98	13.44
9. ST. LOUIS United Railways Lines.....	9,744,453.05	4.95	10,080,340.93	5.37	11,590,590.69	5.94	20.00	18.95
10. BALTIMORE United Railways and Electric Lines.....	7,716,893.00	4.85	8,394,354.00	4.88	10,674,467.00	5.88	21.23	38.33
11. THE TWIN CITIES Minneapolis.....	4,502,216.45	5.00	4,308,321.50	5.00	4,635,401.75	5.00	0.00	2.96
St. Paul.....	2,798,904.50	5.00	2,626,833.45	5.00	3,043,402.13	5.00	0.00	10.31
Both—Twin City Rapid Transit Lines.....	7,261,120.95	5.00	6,835,454.95	5.00	7,678,803.90	5.00	0.00	5.75
12. NEW HAVEN, HARTFORD, BRIDGEPORT, ETC. The Connecticut Co. Lines.....	7,580,645.83	4.94	7,608,642.71	5.93	8,190,332.14	5.95	20.44	8.04
13. FALL RIVER, LOWELL, ETC. Eastern Massachusetts Street Railway Lines (Bay State System).....	7,374,848.81(1)	(2)	7,233,075.65(1)	(2)	8,667,127.05(1)	(2)	(2)	17.52
<p>(1) These figures are exclusive of a small leased line in Nashua, N. H., which was a part of the Bay State System until February, 1918, and also exclusive of a small leased line in Newport, R. I., which was a part of the system until June, 1919.</p> <p>(2) During the years 1917, 1918 and 1919 there were frequent changes in the rates of fare charged on the Bay State Lines, and the method of collecting fares was changed June 24, 1918. Since then no account has been kept of the number of revenue passengers carried or of revenue fares collected.</p>								
14. LOS ANGELES AND VICINITY Los Angeles Railway Lines.....	4,415,738.45	4.93	4,991,908.95	4.99	5,322,772.40	5.01	1.62	20.54
Pacific Electric Lines.....	5,099,802.08	10.47	5,804,879.58	10.92	6,125,505.58	11.87	13.37	20.11
All Lines.....	9,515,540.53	6.88	10,796,788.53	7.05	11,448,277.98	7.25	5.38	20.31
15. SAN FRANCISCO Municipal Railway Lines.....	1,427,057.52	4.97	1,681,975.64	4.92	1,950,546.01	4.98	0.2*	36.68
United Railroads Lines.....	4,885,866.00	5.00	5,558,843.00	4.96	6,326,539.00	4.96	0.8*	29.49
All Lines.....	6,312,923.52	4.99	7,240,818.64	4.95	8,277,085.01	4.97	0.4*	31.11
16. RUFFALO, NIAGARA FALLS, ETC. International Railway Lines.....	5,961,979.21	5.25	5,689,925.72	5.48	6,694,808.71	5.59	6.47	12.29
17. ROCHESTER, SYRACUSE, UTICA, ETC. New York State Railways Lines.....	6,041,478.00	5.51	6,018,057.00	5.61	6,598,948.00	6.12	11.07	9.23

* Indicates Decrease.

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Passenger—1917 CENTS	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Passenger—1918 CENTS	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Passenger—1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917
18. THE KANSAS CITIES									
Kansas City Missouri	\$4,477,160.00	4.98	\$4,277,812.99	5.27	\$4,187,178.00	6.14	23.29	0.24	10.46
Kansas City, Kansas	816,816.52	4.98	851,827.37	5.11	731,353.54	5.24	5.22		
Both—Kansas City Rys. Lines..	4,993,976.52	4.98	5,129,640.36	5.24	4,918,531.54	5.98	20.08		1.51
19. WASHINGTON, D. C.									
Capital Traction Lines	2,019,362.00	4.30	2,560,169.11	4.29	3,260,748.34	5.14	19.53	61.47	
Washington Railway & Electric Lines	1,861,887.29	4.30	2,591,252.84	4.27	3,537,762.27	5.15	19.76	90.01	
All Lines	3,881,249.29	4.30	5,151,421.95	4.28	6,798,510.61	5.14	19.53	75.19	
20. MILWAUKEE									
Milwaukee Electric Ry. & Light Lines	3,629,035.81	4.25	3,920,565.38	4.55	4,699,107.75	5.00	17.64	29.49	
21. PROVIDENCE, PAWTUCKET, ETC.									
Rhode Island Co. Lines.....	4,187,113.74	4.96	4,340,483.47	(1)	4,696,435.54	(1)	(1)	12.16	
(1) NOTE: The Rhode Island Company's traffic statistics for 1918 and 1919 are unreliable for purposes of comparison with 1917, as the basis for counting the revenue passengers was changed. Hence, the average fares collected per revenue passenger in 1918 and 1919, and the percentage of increase in the average fare from 1917 to 1919 cannot be given.									
22. CINCINNATI									
Cincinnati Traction Lines	4,108,444.12	4.97	3,967,215.02	4.97	4,876,694.85	6.02	21.12	18.70	
23. NEW ORLEANS									
New Orleans Railway & Light Lines..	3,363,028.00	4.86	3,635,413.00	5.00	4,741,899.00	6.00	23.45	41.01	
24. OAKLAND, BERKELEY, ETC.									
San Francisco-Oakland Terminal Railways Lines	3,399,317.01	5.88	3,806,588.97	5.98	4,461,580.63	6.88	17.01	31.25	
25. INDIANAPOLIS									
Indianapolis Traction Lines.....	2,345,502.94	4.26	2,263,643.78	4.25	3,037,028.79	5.00	17.37	29.48	
26. RICHMOND, NORFOLK, ETC.									
Virginia Railway & Power Lines.....	2,596,097.93	4.75	3,342,493.19	5.02	3,835,808.13	5.09	7.05	47.75	
27. SEATTLE									
Municipal Railway and Puget Sound Traction, Light & Power Lines....	2,526,797.01	4.72	3,466,844.27	4.92	3,785,423.89	4.98	5.51	49.81	
28. COLUMBUS, OHIO									
Columbus Railway & Light Lines....	1,633,315.93	3.24	1,533,990.78	3.39	1,743,702.95	3.31	2.16	6.72	
29. AKRON, CANTON, ETC.									
Northern Ohio Trac. & Light Lines	3,223,893.29	6.52	3,308,001.25	6.98	4,145,482.86	7.28	11.65	28.59	

TABLE II—PAGE 4.

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Passenger 1917 CENTS	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Passenger 1918 CENTS	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Passenger 1919 CENTS	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Revenue—1919 over 1917
30 WORCESTER, MASS., AND VICINITY Worcester Consolidated Street Railway Lines	\$2,422,516.39	4.94	\$2,374,288.61	5.21	\$2,773,276.99	6.43	30.16	14.48
31 LOUISVILLE Louisville Railway Lines								
32 OMAHA AND COUNCIL BLUFFS Omaha & Council Bluffs Street Railway Lines	2,335,883.34	5.11	2,400,493.70	5.08	2,777,497.29	5.29	3.52	18.96
33 DENVER Denver Tramway Lines	2,276,950.63	5.00	2,442,020.90	5.06	2,847,201.52	5.95	19.00	25.04
34 PORTLAND, OREGON City Lines of Portland Railway, Light & Power Company	2,229,217.46	5.08	3,170,551.88	6.12	3,396,980.37	6.14	20.86	52.38
35 TOLEDO Toledo Railway & Light Lines.....	1,860,350.00	4.31	1,838,951.79	4.73	2,333,540.81	5.63	30.65	25.44
36 ATLANTA AND VICINITY Georgia Railway & Power Lines within 7 mile zone	2,108,570.60	5.00	2,666,774.60	5.00	3,151,463.62	5.59	11.80	49.46
37 YOUNGSTOWN, OHIO, AND VICINITY Mahoning & Shenango Railway & Light Lines	1,941,740.39	5.12	2,006,371.51	5.55	2,200,387.51	6.00	17.19	13.32
38 SPRINGFIELD, MASS., AND VICINITY Springfield Street Railway Lines....	1,764,761.19	4.95	2,026,080.26	5.60	2,128,089.17	5.87	18.58	20.59
39 ALLENTOWN, BETHLEHEM, ETC. Lehigh Valley Transit Lines.....	1,610,531.14	4.63	1,770,315.15	4.70	1,958,414.64	5.51	19.01	21.60
40 MEMPHIS Memphis Street Railway Lines.....	1,554,872.00	4.99	1,530,557.00	4.99	1,887,285.00	5.39	8.02	21.38
41 SPOKANE Washington Waters Power Lines.... Spokane & Inland Empire R.R. Lines.	538,861.51	4.92	551,689.35	4.98	653,211.11	5.63	14.43	21.22

NOTE: No information was furnished by the Louisville Railway Company as to its traffic or revenues.

NOTE: Figures for this system are not available. This company has been through a receivership, and the detailed records requested could not be furnished without more clerical work than the company was prepared to undertake.

TABLE II—PAGE 5.

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Revenue Passenger—1917	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Revenue Passenger—1918	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Revenue Passenger—1919	Percentage of Increase in Average Fare—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917	Percentage Increase in Passenger Revenue—1919 over 1917
42. BIRMINGHAM, ALA. Birmingham Railway, Light & Power Lines	\$1,470,755.51	4.93	\$1,455,190.57	4.97	\$1,738,017.88	5.07	2.84	18.17	
43. DAYTON, OHIO People's Railway Lines Oakwood Street Railway Lines City Railway Lines Dayton Street Railway Lines	386,764.53 124,847.93	4.29 4.27	430,413.18 141,471.79	4.28 4.30	485,967.28 166,383.20	4.78 4.76	11.42 11.48	25.65 33.27	
NOTE: The revenue and passenger figures for the City Railway and the Dayton Street Railway have not been furnished to the Commission.									
44. CENTRAL MICHIGAN, SERVED BY MICHIGAN RAILWAY COMPANY Jackson, City Lines Lansing, City Lines Kalamazoo, City Lines Battle Creek, City Lines Owosso-Corunna, City Lines All City Lines of Michigan Ry. Co. Interurban Lines of Mich. Ry. Co. Entire Michigan Railway System	271,992.73 235,163.07 209,984.24 194,174.90 12,191.85	4.65 4.70 4.47 4.43 5.00	274,496.66 221,497.70 205,080.14 209,305.41 12,386.82	5.33 4.84 4.50 4.96 4.99	321,990.14 310,550.36 231,153.92 237,570.37 17,282.98	5.93 5.53 4.52 5.53 6.55	27.53 17.66 1.12 24.83 31.00	18.38 32.06 15.01 22.35 41.76	
45. SALT LAKE CITY Utah Light and Traction Lines	1,182,066.00	4.63	1,247,025.00	5.11	1,350,028.00	5.49	18.57	14.22	
46. DALLAS Dallas Railway & Oak Cliff Lines	1,134,571.84	4.54	1,167,631.56	4.78	1,618,382.74	4.78	5.29	42.64	
47. DES MOINES Des Moines City Railway Lines	1,067,809.61	4.55	1,195,179.00	4.70	1,288,188.77	4.88	7.25	20.64	
48. NASHVILLE Nashville Railway & Light Lines	1,129,262.19	5.01	1,306,956.27	5.12	1,441,907.83	5.14	2.59	27.69	
49. SCRANTON Scranton Railway Lines	1,090,391.15	5.08	1,128,716.32	5.80	1,334,628.11	7.23	42.32	22.40	
50. WILMINGTON, DEL. Wilmington & Philadelphia Traction Lines	987,926.58	4.87	1,072,413.18	5.45	1,242,961.96	6.02	23.61	25.81	

TABLE II—PAGE 6.

Analysis of Gross Passenger Revenue on Principal Street Railway Systems of the United States Showing Relation of Passenger Revenue to Fare Increases Based on Data Collected by the Federal Electric Railways Commission, December, 1919, and January, 1920.

City or System	Passenger Revenue 1st 9 mos. 1917	Average Fare Per Revenue Passenger—1917 CENTS	Passenger Revenue 1st 9 mos. 1918	Average Fare Per Revenue Passenger—1918 CENTS	Passenger Revenue 1st 9 mos. 1919	Average Fare Per Revenue Passenger—1919 CENTS	Percentage of Increase in Passenger Fare—1919 over 1917	Percentage of Increase in Passenger Revenue—1919 over 1917	Percentage of Decrease in Passenger Revenue—1919 over 1917
51. GRAND RAPIDS, MICHIGAN Grand Rapids Railway Lines.....	\$973,785.48(1)	4.99(2)	\$973,785.48(1)	4.99(2)	\$1,141,113.56(1)	5.83(2)	16.83	17.18	
					(1) Total transportation revenue, which is slightly in excess of gross passenger revenue.				
					(2) Average fare figured on the basis of total transportation revenue.				
52. ERIE, PA., AND VICINITY Buffalo & Lake Erie Traction Lines..	1,164,382.75	6.02	\$1,384,615.10	6.62	1,467,308.95	7.87	30.73	26.01	
53. HOUSTON Houston Electric Lines.									
54. FORT WORTH City Lines	782,719.78	4.85	1,130,871.86	4.89	1,194,239.50	4.87	0.40	52.57	
Interurban Lines	503,925.35	34.80	808,998.59	40.51	937,993.85	40.58	16.61	86.13	
All Northern Texas Trac. Lines	1,286,645.13	7.32	1,939,870.45	7.72	2,132,233.35	7.95	8.61	65.72	
55. HARRISBURG AND VICINITY Harrisburg Railway Lines	847,714.00	4.90	940,185.00	4.91	1,174,108.00	6.01	22.45	38.50	
56. SCHENECTADY AND VICINITY City Lines	693,835.74	4.97	679,431.77	4.97	778,228.02	5.41	8.85	12.16	
Interurban Lines	335,633.38	10.38	327,319.40	10.69	372,043.47	11.50	10.79	10.85	
All Schenectady Railway Lines..	1,029,469.12	5.99	1,006,751.17	6.02	1,150,271.49	6.52	8.85	11.73	
57. SAN ANTONIO San Antonio Public Service Lines..	816,563.46	4.84	1,222,296.33	4.88	1,184,542.05	4.86	0.41	45.64	
58. PORTLAND, MAINE, AND VICINITY Cumberland Co. Power & Light Lines	858,382.00	(1)	869,278.00	(1)	1,062,738.00	(1)	(1)	23.81	
					(1) The method of fare collection on this system does not at present permit the determination of the number of revenue passengers carried and therefore it is impossible to figure out the average fare paid or the percentage of increase in the average fare from 1917 to 1919.				
59. NEW BEDFORD AND VICINITY Union Street Railway Lines.....	808,269.98	4.84	817,868.74	4.84	1,005,393.25	4.97	2.69	24.39	
60. TRENTON, N. J. Trenton and Mercer County Traction Lines	654,978.58	4.28	628,004.35	4.27	816,230.74	6.00	40.19	24.62	
61. TERRE HAUTE, IND., AND VICINITY City Lines	363,661.17	4.70	369,910.24	4.73	461,358.06	4.93	4.89	26.86	
Interurban Lines	1,417,701.86	21.48	1,542,323.82	24.29	1,888,599.95	30.56	42.27	33.15	
All Terre Haute, Indianapolis and Eastern Traction Lines	1,781,363.03	12.42	1,912,234.06	13.49	2,349,958.01	15.13	24.24	31.93	
62. TACOMA Tacoma Ry. & Power Company Lines	622,277.31	4.74	904,336.49	5.52	1,073,284.98	6.83	44.09	72.48	

grouped together in a transportation area served by a single company. Boston and Philadelphia are particularly noteworthy because in the case of each of these cities the elevated, subway and surface lines are operated as a unit by a single company. In Chicago the surface lines are operated as a unit and the elevated lines as a separate unit, with a certain amount of competition between the two systems. Detroit gives an example of a unified city transportation system that is combined in a single operating system with a vast network of interurban lines.² Washington, D. C., is a notable illustration of a city where two rival street railway companies of nearly equal importance still survive. Dayton, Ohio, still enjoys the competition of four companies. San Francisco has its Municipal Railway and also its United Railroads system. Seattle for a number of years had municipal railway lines in competition with the lines of the Puget Sound Traction Light & Power Company, but on April 1, 1919, the Puget Sound lines were acquired by the City and merged with the Municipal Railway. This gave the City a complete monopoly of local street railway service with the exception of the Seattle and Rainier Valley Railway line. In Los Angeles the major portion of the local service is furnished by the Los Angeles Railway Corporation, but the Pacific Electric Railway Company furnishes some local service and a vast amount of interurban service reaching out in every direction from Los Angeles as a center. The Twin City Rapid Transit Company combines in a single transportation unit the cities of Minneapolis and St. Paul. The San Francisco-Oakland Terminal Railways Company serves Oakland, Berkeley, Alameda and other communities on the east side of San Francisco Bay, and competes with the Southern Pacific Railroad Company in rendering trans-bay service to San Francisco. Omaha, Nebraska and Council Bluffs, Iowa, are served as a unit by a single company. The same is true of Kansas City, Missouri and Kansas City, Kansas.

In the eastern section of the country are a number of street railway systems that are almost state-wide in extent. Notable among these is the Public Service Railway system, of New Jersey, which has a monopoly of street railway operation in all the principal cities of the state except Trenton and Atlantic City, and includes in its area of service the sections of northern New Jersey that are tributary to Greater New York, and the section of southern New Jersey that is tributary to Philadelphia. The Connecticut Company, operating in New Haven, Hartford, Bridgeport and other Connecticut cities and towns; the Rhode Island Company, operating in Providence, Pawtucket, Woonsocket and practically throughout the state of Rhode Island; the Eastern Massachusetts Street Railway Company, formerly known as the Bay State System, operating in Lowell, Fall River, Lawrence, Lynn and most of the other cities of eastern Massachusetts north and south of Boston; the New York State Railways Company, serving Rochester, Syracuse, Utica and other cities and towns of central New York; the Northern Ohio Traction & Light Company, serving Akron, Canton and numerous other communities in northeastern Ohio; the Virginia Railway & Power Company, serving Richmond, Petersburg, Norfolk, Portsmouth and other cities and towns in Virginia; and the Michigan Railway Company, operating in Jackson, Lansing, Battle Creek and Kalamazoo, are other notable examples of street railway systems which have combined in a single transportation unit different muni-

cities of relatively equal importance, and constituting geographically independent urban communities.

The illustrations which I have cited indicate some of the contrasts in operating conditions which must, to a certain extent, affect the significance of comparative statistics of street railway traffic and revenue. Still another complication is present in certain cases where widely separated street railway systems, though physically operated as separate and distinct units, are controlled by a common holding company that dominates the policies of the different systems with respect to fares and methods of operation. In certain cases these holding company relationships have a certain significance in connection with the traffic and revenue statistics with which we are here concerned. For example, the policy of one-man car operation with frequent service, adopted for the double purpose of reducing operating expenses and stimulating traffic and revenues, is a policy that has been stressed particularly by Stone & Webster, and when examining the traffic figures of Stone & Webster properties it is important to know to what extent traffic increases are due to the use of one-man cars. Obviously, the time and resources at our disposal in this investigation do not permit a close enough study of the conditions and policies peculiar to all of the individual street railway systems for which we have gathered statistics to enable us to measure with nicety the relative significance of all the different factors entering into the development of traffic and revenues in each particular case.

Boston's sad experience with higher fares was frequently referred to in the testimony, but the Commission's hearings were closed at too early a date to permit the definite results of the 10-cent fare in Boston to be put in the record. As a matter of fact, the financial statement issued by the Board of Public Trustees of the Boston Elevated Railway Company for the three months ended September 30, 1919, still showed a deficiency in earnings below the cost of service as defined by the act under which the trustees were appointed. It is noteworthy, however, that the financial statements for the months subsequent to September, 1919, all indicate that the Boston system, with its 10-cent fare, has finally "turned the corner" and is now earning a surplus in excess of the full cost of service.³ It is unfortunate that the Bay State system stopped counting its passengers just at the point where, from the public point of view, reliable traffic statistics would begin to be of the greatest importance. A similar reflection is due in the case of the Cumberland County Power & Light Company which operates the street railway lines in a group of communities centering in Portland, Maine. Here, also, upon the installation of a new zoning system, the company stopped counting its passengers. In the case of the Rhode Island Company, operating in Providence and most of the other urban communities of Rhode Island, nominal statistics of revenue passengers are still kept, but the figures are practically worthless for comparative purposes, because the basis upon which the number of passengers or passenger fares is counted has twice been changed during the past two years. As a result of the introduction of a new zoning system and the shortening of the zones, a great many passengers who were formerly counted only once are now counted two or three times. The consequence is, that although the Rhode Island Company has raised its fares two or three times in the last three years, with

only slight decreases on certain suburban lines, in an effort to get back the traffic that had been driven away, the statistics of passenger revenues furnished by the company for the first nine months of 1919 indicate a considerable decrease in the average fare paid as compared with the first nine months of 1917. If these three important New England systems centering in Providence, Portland, and the industrial cities of eastern Massachusetts could have furnished us definite statistics showing the traffic developments that have accompanied fare increases and changes from the flat fare system to a zone system, it would have been of material help in this study.

If it be conceded as proven that the 10-cent fare in Boston has begun to succeed in producing a sufficient amount of revenue to cover the entire cost of service, while at the same time the 10-cent fare on the Bay State lines has over-shot the mark and will not produce enough revenue to cover the cost of service, or even as much revenue as some lower fare would produce, we still have to determine, from a study of the results on these and other systems, whether the financial success now being achieved in Boston, and the financial failure still being achieved on the Bay State lines are worth while from the public point of view. This brings us back to the detailed comparison of traffic development in cities where street railway fares have not been raised, with traffic development during the same period in cities like Boston where fares have been radically increased. There are only three communities in the country where elevated railroads, subways and surface lines have all been developed as means of local transportation. These cities are New York, Boston and Philadelphia. Chicago also has an extensive system of elevated railroads, but as yet has no subways.

In certain respects a comparison of the traffic figures for a small group of the largest cities and street railway systems is somewhat simplified if we take the six months period instead of the nine months period. For example, the establishment of a transfer charge at most intersections on the surface lines of New York took place August 1, 1919, and the partial disintegration of the New York Railways system of surface lines began at that time, resulting later on in a number of double fares. The Chicago surface lines continued on the 5-cent fare until August, 1919. The Boston Elevated Railway did not put in the 10-cent fare until July 10, 1919. The Public Service Railway of New Jersey did not experiment with a zoning plan until September, 1919. I have, therefore, prepared an abbreviated table showing the number of revenue passengers carried during the first six months of 1917, 1918 and 1919, on a few of the principal street railway systems of the country. I have treated all the elevated, subway and surface lines of New York City as a single system, and have taken the traffic and revenue figures published by the Public Service Commission for the First District in its quarterly summaries. Because of the existence of a differential fare between the elevated lines and the surface lines of Chicago, I have shown the figures for the two Chicago systems separately. With New York and Chicago I have taken Philadelphia, Boston, the cities served by the Public Service Railway system of New Jersey, Detroit, Cleveland and Pittsburgh. These constitute the eight leading street railway transportation areas of the country. Because of the special significance of jitney competition in connection with street railway

fare increases in New Jersey, I have also included the records of jitney traffic for the city of Newark, in which the Public Service Railway system is centered.

The figures shown on Table III are extremely interesting. For example, if we contrast Philadelphia and Boston, in each of which the elevated, subway and surface lines are operated as a single system, we find that for the first six months of 1917 the Philadelphia Rapid Transit Company carried about 101,700,000 more revenue passengers than the Boston Elevated Railway, while for the first nine months of 1919 the Philadelphia figures were approximately 180,200,000 in excess of the Boston figures. Throughout this period the Philadelphia fare was five cents cash for the initial ride, with an additional charge of three cents for an exchange ticket at certain transfer points. In the figures given the passengers using exchange tickets are counted as revenue passengers. Upon this basis the average fare paid per revenue passenger in 1917 was approximately 4.85 cents. If the exchange ticket users were counted as transfer passengers and not included among revenue passengers, the average fare in 1917 would be 5.16 cents. The averages for 1919 were 4.84 cents with the exchange ticket passengers included, and 5.21 cents with them excluded. In Boston, on the other hand, the 5-cent fare in effect during 1917 and a portion of 1918 was changed to seven cents on August 1, 1918, and to eight cents on December 1, 1918, so that during the entire first half of 1919 the fare was eight cents as compared with five cents for the corresponding period two years earlier. The 10-cent fare in Boston was put into effect July 10, 1919, so that it does not affect the six months comparison.

With these facts in mind, namely, that the Philadelphia fare remained stationary at about five cents, while the Boston fare was increased from five cents to eight cents, it is significant that in Philadelphia there was an increase of 56,650,352 passengers, or 19.4 per cent, for the 1919 half year as compared with the 1917 half year; while in Boston there was a decrease of 21,867,685 passengers, or 11.49 per cent. Assuming that other conditions affecting traffic growth in the two communities were substantially the same, these figures would indicate that if Boston had retained the 5-cent fare it would have carried during the first half of 1919 about 58,500,000 more passengers, or 35 per cent more than it actually did carry. It is possible, however, that other conditions affecting traffic were different in the two communities. Philadelphia had the benefit of the traffic developed by the Hog Island shipyards and other war activities in the vicinity, and, as we have already seen, showed an actual increase in traffic in 1918, a low year, over 1917.

Perhaps it would be fairer to compare the traffic figures of the Boston Elevated Railway Company with the combined traffic figures of all the elevated, subway and surface lines operating in Greater New York. It will be seen from the table that the New York lines showed an actual, though a comparatively slight decrease in passenger traffic during the first half of 1918. For the first six months of 1919, however, there was an increase of 101,308,437 revenue passengers, or 10.23 per cent, over the corresponding period of 1917. The regular fare charged on the street railway lines of New York City remained during this entire period at five cents, with certain slight variations on a few lines which made the average fare paid per revenue passenger 4.93 cents in 1917 and 1918, and 4.96 cents in 1919.

TABLE III.

Revenue Passengers Carried on Principal Urban Street Railway Systems for the First Six Months of 1917, 1918 and 1919

System	Revenue Passengers		Revenue Passengers	
	January to June, 1917	January to June, 1918	January to June, 1918	January to June, 1919
1. New York Elevated, Subway and Surface Lines.....	990,535,666 (1)	979,221,796 (1)	979,221,796 (1)	1,091,844,103 (1)
2. Chicago				
Elevated Lines	97,203,477 (1)	102,121,490 (1)	102,121,490 (1)	95,101,135 (2)
Surface Lines	346,361,384 (1)	328,732,667 (1)	328,732,667 (1)	373,938,449 (1)
All Lines	443,564,861	430,854,157	430,854,157	469,039,585
3. Philadelphia Elevated, Subway and Surface Lines...	291,942,084 (3)	306,846,686 (3)	306,846,686 (3)	348,592,436 (3)
4. Boston Elevated, Subway and Surface Lines.....	190,250,992 (1)	185,699,883 (1)	185,699,883 (1)	168,383,307 (4)
5. Public Service Railway (N. J.).....	174,998,119 (1)	175,354,680 (1)	175,354,680 (1)	158,214,468 (5)
6. Detroit (One-Fare Zone)	157,794,827 (6)	132,543,905 (7)	132,543,905 (7)	150,643,390 (8)
7. Cleveland	143,766,868 (9)	142,083,699 (10)	142,083,699 (10)	139,722,656 (11)
8. Pittsburgh	131,789,642 (1)	116,428,150 (12)	116,428,150 (12)	122,319,998 (13)
Newark Jitneys	4,466,377 (14)	7,516,608 (14)	7,516,608 (14)	16,249,008 (14)

NOTES

- 5-cent fare with free transfers.
- 6-cent fare with free transfers.
- 5 cents initial fare with 3 cents exchange tickets at a majority of transfer points.
- 8-cent fare with free transfers.
- 7-cent fare during 4 months and 28 days, and 6-cent fare during 1 month and 3 days, with 1-cent initial transfer charge during the entire period.
- Mixed system of fares; average fare per revenue passenger 3.62 cents.
- Mixed system of fares; average fare per revenue passenger 4.57 cents.
- Mixed system of fares; average fare per revenue passenger 4.66 cents.
- Mixed system of fares; average fare per revenue passenger 3.40 cents.
- Mixed system of fares; average fare per revenue passenger 3.84 cents.
- Mixed system of fares; average fare per revenue passenger 5.29 cents.
- Mixed system of fares—changed twice during period; average fare per revenue passenger 5.51 cents.
- A double zone system; average fare per revenue passenger 6.27 cents.
- 5-cent fare without transfers.

If we assume that conditions affecting traffic, aside from the fare increases, were the same in Boston as in New York, and if we assume that an increase from five cents to eight cents in New York would have had the same effect upon traffic that this increase had in Boston, we reach the result that during the first half of 1919 the New York transit lines, on an 8-cent fare, would have carried about 876,000,000 instead of 1,091,000,000, a decrease of 215,000,000, or at the rate of 430,000,000 per annum. New York City in 1913, in conjunction with the local rapid transit companies, undertook a program of subway and elevated railroad construction designed to meet the increasing traffic needs of the city. The cost of these new rapid transit facilities was estimated at the time at about \$325,000,000, but the increases in wages and in the prices of materials which caught the subway builders midway in the period of construction, have swelled the total cost to more than \$400,000,000. The indicated effect of an 8-cent fare, judged by the results in Boston, would have been to set back the growth of street railway traffic in New York City seven years. The significance of such a result in the determination of the City's policy with respect to rapid transit construction cannot be escaped.

Another interesting comparison is between the traffic growth in the Public Service Railway territory including the large cities of northern New Jersey, which are a part of the New York metropolitan district, as well as Camden and the neighboring communities of south Jersey, which are a part of the Philadelphia metropolitan district. The Public Service Railway system includes no rapid transit lines. It spreads out over an immense area, serving no less than 141 separate municipalities ranging from a population of a few hundred up to nearly half a million. From the point of view of revenue passengers carried, this transportation area stands number five in the entire country. On the New Jersey lines a 5-cent fare, supplemented by a 3-cent fare for school children, was charged through 1917 and up to August 1, 1918, when a charge of one cent for each initial transfer was added. On October 15, 1918, the initial fare went up to seven cents. This was continued until April 1, 1919, when the initial fare was reduced to six cents and continued at that figure until May 4th, when it again became seven cents, the 1-cent initial transfer charge and the school children's 3-cent fare being retained throughout this period. No further changes took place on the Jersey lines until after July 1, 1919. The comparison of the first six months of 1917 with the first six months of 1919 is, therefore, substantially a comparison of a 5-cent fare period with a 7-cent fare period.

The territory served by the Public Service Railway lines was dotted with war industries, and in 1918 the Public Service Railway Company, besides having to increase its facilities in the Camden territory, was compelled to build an extension of its lines to Port Newark to take care of this new traffic. The effect of the war industries, even before these additional facilities were available, is shown by the fact that the traffic for the first six months of 1918 showed a slight increase over the traffic for the corresponding period of 1917. For the first half of 1919, however, with the higher fares in effect, the traffic showed a decrease of 16,783,651 revenue passengers, or 8.45 per cent, as compared with the corresponding period two years earlier.

Thus, we see that where the fares had not been raised there was an increase of 10.23 per cent in traffic in New York City on one side and of 19.4 per cent in Philadelphia on the other side; while in the intervening territory in New Jersey, served by the Public Service Railway Company, with an increase of about 40 per cent in the rate of fare, there was an actual decrease of 8.45 per cent in traffic. It is especially noteworthy that in the city of Newark, which is the center of the Public Service Railway system, there was an increase in jitney traffic from 4,466,377 for the first half of 1917, to 16,249,008 for the first half of 1919, or 263.8 per cent. The regular jitney fare remained at five cents during this period.

The effect upon traffic of an increase in the rate of fare can be seen very clearly by a comparison of the traffic figures for the elevated lines and the surface lines in Chicago. During the first half of 1917 and the first half of 1918 the 5-cent fare was retained on all the Chicago lines. The figures show that from the first half of 1917 to the first half of 1918, the latter being a low traffic year, the number of passengers carried by the Chicago elevated lines increased 4,918,013, or slightly more than 5 per cent; while during the same period the number of revenue passengers carried by the Chicago surface lines decreased 17,628,717, or 5 per cent. This contrast seems to show the normal tendency of traffic in a large city to gravitate toward the rapid transit lines so long as fare conditions remain the same. In November, 1918, the fare on the elevated lines was raised to six cents, while the surface lines continued to charge five cents until early in the second half of 1919. The figures for the first half of 1919 reflect, therefore, the effect of the 6-cent fare on the elevated lines as compared with the 5-cent fare on the surface lines. On the elevated lines, where the fare increase took place, the former tendency to traffic growth was reversed, so that during the first half of 1919, 7,020,354, or 6.87 per cent, fewer passengers were carried than during the corresponding period of 1918. In fact the gain made in 1918 over 1917 was more than lost, so that the 1919 figures show a decrease of 2.16 per cent as compared with 1917. On the other hand, the surface lines, where the fare had not been increased, showed a gain of 45,202,782 passengers, or 13.75 per cent, over the corresponding period of 1918. This contrasts with a decrease of 6.87 per cent between the same periods in the traffic on the elevated lines where the fare had been increased to six cents, indicating that without the increase in fare the elevated lines would have carried during the first half of 1919 at least 22 per cent more passengers than they did, and upon this basis would have collected a greater total revenue at five cents than they actually collected at six cents. Indeed, if the tendency shown from 1917 to 1918 for the elevated lines to increase their traffic in the face of adverse conditions, while the traffic on the surface lines fell off, had been continued from 1918 to 1919, the elevated lines would have carried, at a 5-cent fare, an even greater excess of passengers over the number which they actually carried than is indicated by this percentage.

It is significant that Detroit and Cleveland, both of which are low fare cities, show an actual falling off of traffic from the first half of 1917 to the first half of 1919. In Detroit the average fare charged in the first half of 1919 was 4.66 cents, but this represented an increase of 28.7 per cent over the average fare

charged during the first half of 1917. In Cleveland the increase was from 3.40 cents in 1917 to 5.29 cents in 1919, or nearly 56 per cent. The only other city shown on Table III is Pittsburgh. Here there was a striking decrease in traffic from 1917 to 1918, and a partial recovery in 1919, with the result that the figure for the first half of 1919 was 9,469,644 below the figure for 1917. In the case of Pittsburgh, there had been in the meantime a sharp increase in the rate of fare. Instead of the 5-cent fare which, with certain minor variations, prevailed throughout the year 1917, the fare system in effect during the first half of 1919 was based on a division of the urban territory into two areas. In the inner area the fare was five cents, and in the outer area seven cents, with eight tickets for 55 cents. On August 1, 1919, the zones were abolished and a cash fare of ten cents, with tickets at the rate of four for thirty cents, were introduced, but this last increase in the rate does not affect the traffic figures for the periods covered by Table III.

It seems to be clearly shown from comparisons based on the figures given in Table III that considerable fare increases, even where they start from a low base as in Cleveland and Detroit, have adversely affected the development of traffic on the great metropolitan street railway systems of the country. It seems clear, also, from these comparisons that where there have been no fare increases the traffic during the first half of 1919 showed a remarkable development. Philadelphia's striking *increase* of 19.4 per cent contrasts with the general average of about 7 per cent for the entire group of big systems for which the figures are given on Table I and Table II; while Boston's *decrease* of 11.49 per cent was even more striking at the other end of the scale.

Passing on from the great metropolitan communities to cities farther down in the scale of population and traffic, we find that the figures are more or less "spotted," and that the general results of fare increases upon traffic and revenues are not so clear. We find, for example, that San Francisco, without an increase in fare, shows an increase of nearly 32 per cent in traffic for the first 9 months of 1919 as compared with the corresponding period of 1917, a part of which is accounted for by the fact that the 1917 figures were reduced considerably by a strike on the United Railroads. At the same time Washington, D. C., with an increase of about 20 per cent in the average fare paid, nevertheless shows an increase of more than 46 per cent in traffic. It is reasonably clear that, because of the extraordinary increase of population and governmental military activities in and about Washington during the war, the Washington figures have little or no significance. The two Kansas Cities show quite an opposite result. There, also, the average fare was increased about 20 per cent, and traffic fell off 18.08 per cent. The combined Seattle lines, with only a slight increase in fare, showed an increase of nearly 42 per cent in traffic, and at the other end of the continent the Virginia Railway & Power lines, also with a slight increase in fare, showed an increase of about 34½ per cent in traffic. A number of cities, notably New Orleans, Oakland, Indianapolis, Portland, Ore., and Atlanta, showed marked increases in traffic along with considerable fare increases. On the other hand, Worcester, Mass., with an increase of 30 per cent in the fare, shows a falling off

of 11.7 per cent in traffic, and Scranton, Pa., with an increase of 42 per cent in the fare, shows a falling off of 14 per cent in traffic.

The effect of fare increases upon revenues is determined by their effect upon traffic. An increase from a straight 5-cent fare to a straight 6-cent fare without any resulting diminution in traffic would produce an increase of 20 per cent in revenues. In like manner an increase from 5 cents to 7 cents would produce a 40 per cent increase in revenues; an increase from 5 cents to 8 cents would produce a 60 per cent increase, and an increase from 5 cents to 10 cents would double the revenues. While it was shown by the evidence presented to the Commission that in certain cases an increase in fare has been followed by an immediate decrease in revenues, the general consensus of opinion expressed by witnesses representing the Electric Railway Association was that in practically every case an increase in fares will be followed, if not immediately, at least within a comparatively short time, by an increase in revenues. This contention is clearly borne out so far as the large street railway systems are concerned by the analysis of the traffic and revenue figures given on Table I and Table II. For convenience in determining the effect upon gross revenues of traffic decreases accompanying higher fares, the following is an easy formula:

$$\begin{aligned} (100 \text{ minus } 16\frac{2}{3}) \text{ times } 6 &= 100 \text{ times } 5 \\ (100 \text{ minus } 28\frac{1}{4}) \text{ times } 7 &= 100 \text{ times } 5 \\ (100 \text{ minus } 37\frac{1}{2}) \text{ times } 8 &= 100 \text{ times } 5 \\ (100 \text{ minus } 44\frac{1}{6}) \text{ times } 9 &= 100 \text{ times } 5 \\ (100 \text{ minus } 50) \text{ times } 10 &= 100 \text{ times } 5 \end{aligned}$$

This shows that a falling off of $16\frac{2}{3}$ per cent in traffic is required to obliterate the effect of the 6-cent fare upon revenues where the change is made from a straight 5-cent fare; if the fare is "jumped" from 5 cents to 7 cents, the result will be neutralized if the traffic falls off $28\frac{1}{4}$ per cent; an increase from 5 cents to 8 cents will be overcome by a drop of $37\frac{1}{2}$ per cent in traffic, and an increase from 5 cents to 9 cents by a drop of $44\frac{1}{6}$ per cent in traffic. Obviously, where the fare is doubled the revenues will be increased unless traffic is reduced at least one half. A consideration of these percentages and of the figures given on Table I show the average increase in the rate of fare and the average increase or decrease in the traffic makes it almost unnecessary to look at Table II for the effects upon revenues.

In view of the fact that so many variant conditions have been found during the past three years in different sections of the country entirely aside from the fare increases, it is clear that in order to reach an entirely trustworthy conclusion it will be necessary to summarize the results found on a large number of different systems classified according to the amount of increase in the average fares paid. For this purpose I have divided the cities and systems for which the detailed figures were received into four classes. Class "A" includes those where there was no increase in the average fare paid, or an increase of less than 3 per cent; Class "B" those where the increase in the average fare paid was between 3 per cent and 10 per cent; Class "C" those where the increase was from 10 per cent to 25 per cent, and Class "D" those where the increase was more than 25 per cent.

The figures on Table II show that in most transportation areas there was some fluctuation in the average fare paid even where the rates had not been

changed. This is due to the fact that although prior to the present era of fare increases 5 cents was the general cash fare unit, a great many systems sold reduced fare tickets or gave special concessions to school children or other children, or had special fares on particular lines, so that the average fare paid by all the revenue passengers taken together was in most cases either more or less, but usually less, than 5 cents. For example, in New York City there was, even in 1917, a slight variation from the 5-cent fare. This was due in part to the fact that on several short lines, including local service on the East River bridges, fares below 5 cents were charged; also in part to the fact that on some of the Brooklyn Rapid Transit lines a 3-cent fare for children was charged under an old franchise requirement; also to the fact that on the uptown branch of the Hudson & Manhattan Railroad the fare was 7 cents.

It is noteworthy that the average fare before the era of fare increases in the five chief transportation areas of the country was very close to 5 cents. On the table, Philadelphia shows an average fare of 4.85 cents, but this is because the exchange ticket passengers are included in the Philadelphia statistics along with the initial 5-cent fare passengers. If we treat the exchange ticket riders as transfer passengers, the Philadelphia average fare would be 5.16 cents, which is somewhat higher than the average in 1917 for any of the other principal transportation districts of the country not affected by interurban fares. It is noteworthy that in Detroit the average fare on the city lines in 1917 was only 3.63 cents; in Cleveland, 3.4 cents; in Washington, 4.3 cents; in Milwaukee, 4.25 cents; in Indianapolis, 4.26 cents; in Columbus, Ohio, 3.24 cents; in Toledo, 4.31 cents; in Dayton, Ohio, 4.29 cents (Peoples Railway lines), and in Trenton, N. J., 4.28 cents. These were the principal low fare cities at that time. During the first 9 months of 1919 the average Detroit fare had advanced to 4.78 cents; the Cleveland fare to 5.2 cents; the Washington fare to 5.14 cents; the Milwaukee fare to a straight 5 cents; the Indianapolis fare also to a straight 5 cents; the Toledo fare to 5.63 cents; the Dayton fare to 4.78 cents, and the Trenton fare to 6 cents. The only one of these low fare cities which showed no material increase was Columbus, Ohio, where the average fare for 1919 was still only 3.31 cents, an advance of .07 of a cent over 1917. It will be noticed that some of the low fare cities had a striking increase on the percentage basis, even though after the increases had become effective the fares were still relatively low, approximately the same as the average fares on all the systems in 1917. For example, the increase on the Detroit city lines was 31.68 per cent but still not sufficient to bring the fare up to 5 cents; the increase on the Cleveland lines was 54.12 per cent and made the average fare only slightly more than 5 cents. Curiously enough, the classification of cities on the basis of percentages of increase in the average fare paid per revenue passenger puts Cleveland and Detroit in the same class with Boston, Pittsburgh and the Public Service Railway of New Jersey.

Table IV presented herewith shows a comparative summary of the traffic data with relation to fare increases upon the principal street railway systems of the country here under discussion, separated into the four classes above described. Table V shows a comparative summary of passenger revenue in relation to fare increases on the same systems.

TABLE IV—PAGE 1.

Comparative Summary of Traffic Data in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which traffic and fare statistics are shown on Table I are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS A—CITIES OR SYSTEMS WHERE THERE WAS NO INCREASE IN THE AVERAGE FARE PAID, OR WHERE THE INCREASE WAS LESS THAN 3 PER CENT.

City or System	Revenue Passengers First 9 Months of 1917	Revenue Passengers First 9 Months of 1919	% Increase in Average Fare—1919 over 1917 (*Indicates Decrease)	% In- crease in Revenue Passengers —1919 over 1917	% De- crease in Revenue Passengers —1919 over 1917
New York—All Lines.....	1,489,962,657	1,667,426,486	0.61	11.91	
Philadelphia—All Lines	436,909,768	526,535,845	0.21*	20.51	
Detroit—Interurban Lines	20,928,614	27,561,729	0.99	31.69	
Minneapolis and St. Paul.....	145,162,419	153,576,078	0.00	5.79	
Los Angeles—City Lines	89,534,769	106,261,432	1.62	18.68	
San Francisco—All Lines.....	126,478,799	166,715,177	0.40*	31.81	
Columbus, Ohio	50,406,073	52,682,219	2.16	4.51	
Birmingham	29,846,954	34,273,258	2.84	14.83	
Kalamazoo, Mich.	4,497,554	5,118,566	1.12	13.81	
Nashville	22,012,483	28,032,224	2.59	27.35	
For Worth—City Lines	16,124,648	24,496,694	0.40	51.92	
San Antonio	16,867,713	24,347,314	0.41	44.34	
New Bedford	16,707,643	20,211,655	2.69	20.97	
TOTALS	2,465,440,094	2,837,238,677	0.41	15.08	

CLASS B—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS BETWEEN 3 PER CENT AND 10 PER CENT.

Chicago—Surface Lines	523,370,743	551,381,266	7.61	5.35	
Buffalo, Niagara Falls, etc....	113,609,101	119,740,900	6.47	5.39	
Kansas City, Kansas	16,406,749	13,965,368	5.22		14.88
Richmond, Norfolk, etc.....	54,630,318	73,463,000	4.84	34.47	
Seattle—All Lines(1)	53,504,761	75,960,360	5.51	41.97	
Omaha and Council Bluffs.....	45,688,544	52,511,447	3.52	14.93	
Memphis	31,185,675	34,991,207	8.02	12.52	
Dallas—All Lines	24,970,223	33,855,986	5.29	35.59	
Des Moines	23,445,067	26,371,094	7.25	12.48	
Schenectady—City Lines	13,957,763	14,396,780	8.85	3.15	
Terre Haute—City Lines	7,742,211	9,349,623	4.89	20.76	
TOTALS	908,511,155	1,005,987,031	6.63	10.73	

(1) Not including the Seattle and Rainier Valley Railway Line.

TABLE IV—PAGE 2.

Comparative Summary of Traffic Data in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which traffic and fare statistics are shown on Table I are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS C—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS BETWEEN 10 PER CENT AND 25 PER CENT.

City or System	Revenue Passengers First 9 Months of 1917	Revenue Passengers First 9 Months of 1919	% Increase in Average Fare—1919 over 1917	% In- crease in Revenue Passengers —1919 over 1917	% De- crease in Revenue Passengers —1919 over 1917
St. Louis	196,739,976	195,211,572	20.00		0.77
Baltimore	159,028,504	181,651,331	21.23	14.22	
New Haven, Hartford, Bridge- port, etc.	141,555,122	128,522,107	20.44		9.27
Los Angeles—Interurban Lines	48,724,644	51,588,152	13.37	5.87	
Rochester, Syracuse, Utica, etc.	109,721,679	107,784,111	11.07	1.76	
Kansas City, Mo.	83,932,965	68,232,548	23.29		23.01
Washington, D. C.—All Lines.	90,291,052	132,152,869	19.53	46.36	
Milwaukee	85,449,596	93,986,497	17.64	9.08	
Cincinnati	82,631,009	81,059,828	21.12		1.90
New Orleans	69,260,548	79,032,169	23.45	14.11	
Oakland, Berkeley, etc.	57,805,617	64,877,797	17.01	12.23	
Indianapolis	55,031,522	60,750,611	17.37	10.39	
Akron, Canton, etc.	49,467,059	56,977,359	11.65	15.18	
Denver	45,338,077	47,816,757	19.00	5.46	
Portland, Ore.—City Lines.	43,893,582	55,352,547	20.86	26.16	
Atlanta and Vicinity	42,171,415	56,427,064	11.80	33.80	
Youngstown and Vicinity.	37,888,821	36,698,212	17.19		3.14
Springfield, Mass., and Vicinity	35,644,600	36,274,159	18.58	1.77	
Allentown, Bethlehem, etc.	34,769,663	35,563,277	19.01	2.28	
Dayton					
People's Railway Lines ...	9,028,145	10,164,616	11.42	12.58	
Oakwood Street Ry. Lines.	2,926,512	3,488,281	11.48	19.20	
Lansing, Mich.	5,008,727	5,614,226	17.66	12.09	
Battle Creek, Mich.	4,386,400	4,299,505	24.83		1.98
Michigan Railway, Interurban Lines	5,809,005	5,687,565	15.70		2.09
Salt Lake City and Vicinity.	25,510,649	24,605,337	18.57		3.55
Wilmington, Del.	20,289,998	20,649,475	23.61	1.77	
Grand Rapids	19,498,885	19,568,259	16.83	0.36	
Fort Worth, Interurban Lines.	1,448,016	2,310,680	16.61	59.57	
Harrisburg	17,309,396	19,504,823	22.45	12.68	
Schenectady, Interurban Lines.	3,234,606	3,233,863	10.79	10.85	
TOTALS	1,583,795,790	1,689,085,597	17.80	6.65	

TABLE IV—PAGE 3.

Comparative Summary of Traffic Data in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which traffic and fare statistics are shown on Table I are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS D—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS MORE THAN 25 PER CENT.

City or System	Revenue Passengers First 9 Months of 1917	Revenue Passengers First 9 Months of 1919	% Increase in Average Fare—1919 over 1917	% In- crease in Revenue Passengers —1919 over 1917	% De- crease in Revenue Passengers —1919 over 1917
Chicago—Elevated Lines	143,741,130	136,839,225	26.89		5.04
Boston	283,538,270	239,677,336	70.36		15.47
Newark, Jersey City, etc.....	268,384,308	242,182,829	40.28		9.69
Detroit—One Fare Zone	233,966,707	238,296,671	31.68	1.85	
Cleveland	218,108,253	212,581,057	54.12		2.53
Pittsburgh	199,799,054	174,352,989	29.98		12.73
Worcester and Vicinity.....	49,049,904	43,309,315	30.16		11.70
Toledo	43,173,868	41,453,499	30.65		4.00
Jackson, Mich.	5,850,851	5,434,806	27.53		7.11
Owosso-Corunna, Mich.	243,892	263,985	31.00	8.24	
Scranton and Vicinity.....	21,484,778	18,468,199	42.32		14.04
Erie and Vicinity	19,336,629	18,641,243	30.73		3.60
Trenton	15,304,987	13,598,832	40.19		11.15
Terre Haute—Interurban Lines	6,599,696	6,180,906	42.27		6.35
Tacoma—City Lines (1)	13,132,660	15,706,196	44.09	19.29	
TOTALS	1,521,714,987	1,406,987,088	41.77		7.54

(1) Not including Tide Flats municipal line.

SUMMARY — CITIES AND SYSTEMS OF ALL CLASSES COMBINED..

6,479,462,026	6,939,298,393	13.97	7.10
---------------	---------------	-------	------

TABLE V—PAGE 1.

Comparative Summary of Passenger Revenues in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which revenue and fare statistics are shown on Table II are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS A—CITIES OR SYSTEMS WHERE THERE WAS NO INCREASE IN THE AVERAGE FARE PAID, OR WHERE THE INCREASE WAS LESS THAN 3 PER CENT.

City or System	Passenger Revenue First 9 Months of 1917	Passenger Revenue First 9 Months of 1919	% Increase in Average Fare—1919 Over 1917 (*Indicates Decrease)	% Increase in Passen- ger Earn- ings, 1919 Over 1917 (*Indicates Decrease)
New York—All Lines	\$73,795,447.83	\$82,965,981.94	0.61	12.41
Philadelphia—All Lines	21,168,746.48	25,466,994.58	0.21*	20.30
Detroit—Interurban Lines	1,686,946.41	2,244,182.87	0.99	33.03
Minneapolis and St. Paul	7,261,120.95	7,678,803.90	0.00	5.75
Los Angeles—City Lines	4,415,738.45	5,322,772.40	1.62	20.54
San Francisco—All Lines	6,312,923.52	8,277,085.01	0.40*	31.11
Columbus, Ohio	1,633,315.93	1,743,702.95	2.16	6.72
Birmingham	1,470,755.51	1,738,017.88	2.84	18.17
Kalamazoo, Mich.	200,984.24	231,153.92	1.12	15.01
Nashville	1,129,262.19	1,441,907.83	2.59	27.69
Fort Worth—City Lines	782,719.78	1,194,239.50	0.40	52.57
San Antonio	816,563.46	1,184,542.05	0.41	45.64
New Bedford	808,269.98	1,005,393.25	2.69	24.39
TOTALS	\$121,482,794.73	\$140,494,778.08	0.41	15.65

CLASS B—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS BETWEEN 3 PER CENT AND 10 PER CENT.

Chicago—Surface Lines	\$26,112,648.00	\$29,604,964.00	7.61	13.37
Buffalo, Niagara Falls, etc.	5,961,979.21	6,694,808.71	6.47	12.29
Kansas City, Kansas	816,816.52	731,353.54	5.22	10.46*
Richmond, Norfolk, etc.	2,596,097.93	3,835,808.13	4.84	47.75
Seattle—All Lines (1)	2,526,797.01	3,785,423.89	5.51	49.81
Omaha and Council Bluffs	2,335,883.34	2,777,497.29	3.52	18.96
Memphis	1,554,872.00	1,887,285.00	8.02	21.38
Dallas—All Lines	1,134,571.84	1,618,382.74	5.29	42.64
Des Moines	1,067,809.61	1,288,188.77	7.25	20.64
Schenectady—City Lines	693,835.74	778,228.02	8.85	12.16
Terre Haute—City Lines	363,661.17	461,358.06	4.89	26.86
TOTALS	\$45,264,972.37	\$53,463,298.15	6.63	18.11

(1) Not including the Seattle and Rainier Valley Railway Line.

TABLE V—PAGE 2.

Comparative Summary of Passenger Revenues in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which revenue and fare statistics are shown on Table II are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS C—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS BETWEEN 10 PER CENT AND 25 PER CENT.

City or System	Passenger Revenue First 9 Months of 1917	Passenger Revenue First 9 Months of 1919	% Increase in Average Fare—1919 over 1917	% Increase in Passen- ger Earn- ings, 1919 over 1917
St. Louis	\$9,744,453.05	\$11,590,590.69	20.00	18.95
Baltimore	7,716,893.00	10,674,467.00	21.23	38.33
New Haven, Hartford, Bridge- port, etc.	7,580,645.83	8,190,332.14	20.44	8.04
Los Angeles—Interurban Lines	5,099,802.08	6,125,505.58	13.37	20.11
Rochester, Syracuse, Utica, etc.	6,041,478.00	6,598,948.00	11.07	9.23
Kansas City, Missouri	4,177,160.00	4,187,178.00	23.29	0.24
Washington, D. C.—All Lines..	3,881,249.29	6,798,510.61	19.53	75.19
Milwaukee	3,629,035.81	4,699,107.75	17.64	29.49
Cincinnati	4,108,444.12	4,876,694.85	21.12	18.70
New Orleans	3,363,028.00	4,741,899.00	23.45	41.01
Oakland, Berkeley, etc.	3,399,317.01	4,461,580.63	17.01	31.25
Indianapolis	2,345,502.94	3,037,028.79	17.37	29.48
Akron, Canton, etc.	3,223,893.29	4,145,482.86	11.65	28.59
Denver	2,276,950.63	2,847,201.52	19.00	25.04
Portland, Ore.—City Lines	2,229,217.46	3,396,980.37	20.86	52.38
Atlanta and Vicinity	2,108,570.60	3,151,463.62	11.80	49.46
Youngstown and Vicinity	1,941,740.39	2,200,387.51	17.19	13.32
Springfield, Mass., and Vicinity	1,764,761.19	2,128,089.17	18.58	20.59
Allentown, Bethlehem, etc.	1,610,531.14	1,958,414.64	19.01	21.60
Dayton				
People's Railway Lines.....	386,764.53	485,967.28	11.42	25.65
Oakwood Street Ry. Lines.	124,847.93	166,383.20	11.48	33.27
Lansing, Mich.	235,163.07	310,550.36	17.66	32.06
Battle Creek, Mich.	194,174.90	237,570.37	24.83	22.35
Michigan Railway—Interurban Lines	1,553,980.55	1,760,501.13	15.70	13.29
Salt Lake City and Vicinity ..	1,182,066.00	1,350,028.00	18.57	14.22
Wilmington, Del.	987,926.58	1,242,961.96	23.61	25.81
Grand Rapids	973,785.48	1,141,113.56	16.83	17.18
Fort Worth—Interurban Lines.	503,925.35	937,993.85	16.61	86.13
Harrisburg	847,714.00	1,174,108.00	22.45	38.50
Schenectady—Interurban Lines.	335,633.38	372,043.47	10.79	10.85
TOTALS	\$83,568,655.60	\$104,989,083.91	17.80	25.63

TABLE V—PAGE 3.

Comparative Summary of Passenger Revenues in Relation to Fare Increases Upon the Principal Street Railway Systems of the United States, as Reported to the Federal Electric Railways Commission, for the First Nine Months of 1917 and the First Nine Months of 1919

The cities and systems for which revenue and fare statistics are shown on Table II are here distributed into four classes according to the percentage increase in the average fare paid per revenue passenger during the first nine months of 1919 as compared with the first nine months of 1917.

CLASS D—CITIES OR SYSTEMS WHERE THE INCREASE IN THE AVERAGE FARE PAID WAS MORE THAN 25 PER CENT.

City or System	Passenger Revenue First 9 Months of 1917	Passenger Revenue First 9 Months of 1919	% Increase in Average Fare—1919 over 1917	% Increase in Passen- ger Earn- ings, 1919 over 1917
Chicago—Elevated Lines	\$7,424,740.27	\$8,981,192.54	26.89	20.96
Boston	14,162,362.36	20,369,190.05	70.36	43.83
Newark, Jersey City, etc.....	13,379,488.46	16,942,840.32	40.28	26.63
Detroit—One Fare Zone	8,495,984.00	11,399,518.02	31.68	34.18
Cleveland	7,425,361.93	11,136,974.15	54.12	49.98
Pittsburgh	9,934,592.00	11,269,485.00	29.98	13.44
Worcester and Vicinity	2,422,516.39	2,773,276.99	30.16	14.48
Toledo	1,860,350.00	2,333,540.81	30.65	25.44
Jackson, Mich.	271,992.73	321,990.14	27.53	18.38
Owosso-Cornnna, Mich.	12,191.85	17,282.98	31.00	41.76
Scranton and Vicinity	1,090,391.15	1,334,628.11	42.32	22.40
Erie and Vicinity	1,164,382.75	1,467,308.95	30.73	26.01
Trenton	654,978.58	816,230.74	40.19	24.62
Terre Haute—Interurban Lines.	1,417,701.86	1,888,599.95	42.27	33.15
Tacoma—City Lines(1)	622,277.31	1,073,284.98	44.09	72.48
TOTALS	\$70,339,311.64	\$92,125,343.73	41.77	30.97
(1) Not including Tide Flats Municipal Line.				
SUMMARY — CITIES AND SYSTEMS OF ALL CLASSES COMBINED...	\$320,655,734.34	\$391,072,503.87	13.97	21.96

In order still further to summarize and visualize the results of fare increases upon traffic and revenues as shown by the figures in the particular transportation areas and groups of areas on Table I, Table II, Table IV and Table V, I have prepared Table VI (page 212), which gives the number of cities or systems in each of the four classes, the total number of revenue passengers carried during the first 9 months of 1917, the first 9 months of 1918 and the first 9 months of 1919 on each group of systems, the per cent of the total electric railway traffic of the country carried by each group in 1917, and the average fare per revenue passenger on each group during the first 9 months of 1917 and the first 9 months of 1919. It will be observed that the four groups of cities included in this analysis carried 76.63 per cent of all the electric railway traffic of the country. The first group, where fares were not appreciably increased, carried a little over 29 per cent; the second group, where fares were increased between 3 per cent and 10 per cent, carried nearly 11 per cent of the traffic; the third group, where fares were increased from 10 per cent to 25 per cent, carried about $18\frac{3}{4}$ per cent of the total traffic, and the fourth group, where fares were increased more than 25 per cent, carried 18 per cent of the total traffic.

The significant figures in which the results of the analysis of the effects of fare increases upon traffic and revenues are summarized are those contained in the last three columns of Table VI. It will be seen that the first of these columns shows for each group and for all groups together the per cent increase in the average rate of fare paid in 1919 as compared with 1917; the second shows the per cent increase or decrease in the traffic over the same period, and the last column shows the per cent increase in passenger revenues. These columns tell the story. For the four classes the increases in the average fare paid are 0.41 per cent, 6.63 per cent, 17.80 per cent and 41.77 per cent respectively. The traffic changes for the same groups are 15.08 per cent increase, 10.73 per cent increase, 6.65 per cent increase and 7.54 per cent decrease, respectively. As the per cent increase in fares goes up the per cent increase in traffic goes down, and in the fourth class is changed into an actual decrease. The per cent increases in passenger revenues are 15.65 per cent, 18.11 per cent, 25.63 per cent and 30.97 per cent, respectively, showing a steady upward trend.

If we compare the first group of communities, where as a result of the normal growth of traffic and without any appreciable increase in the rate of fare, revenues for the first 9 months of 1919 increased more than 15 per cent over the corresponding period of 1917, with the fourth group, where with an actual decrease of 7.54 per cent in traffic the revenue showed an increase of 30.97 per cent as a result of fare increases averaging 41.77 per cent, we are able to draw the conclusion with considerable definiteness that the difference between an increase of 15.65 per cent in revenues and an increase of 30.97 per cent in revenues is the real measure of the increase in revenues due to an average increase of over 40 per cent in fare. In other words, the conclusion seems to be reasonably clear that an increase of 40 per cent in fare may be expected to produce only about 15 per cent increase in revenue. Dr. Thomas Conway, testifying on behalf of the American Electric Railway Association, stated as a result of his rather extensive studies, that a 40 per cent increase in fare could be expected to produce an

TABLE VI.

General Summary of Analysis of Effect of Fare Increases Upon Traffic and Revenues of Principal Street Railway Systems of the United States—Compiled from Data Collected by the Federal Electric Railways Commission. The Cities or Systems for Which Statistics have been Compiled have been Divided into Classes According to the Percentage of Increase in the Average Fare Paid During the First 9 Months of 1919 over the First 9 Months of 1917

Class	Number of Cities or Systems in Class (1)	Number of Revenue Passengers carried 1st 9 months of 1917	Percent of Total Electric Revenue of Country	Average Fare Per Revenue Passenger 1st 9 months of 1917 CENTS	Number of Revenue Passengers carried 1st 9 months of 1919	Average Fare Per Revenue Passenger 1st 9 months of 1919 CENTS	Increase in Average Fare Paid 1st 9 months of 1919 over 1st 9 months of 1917	Percent Increase in number of revenue passengers 1st 9 months of 1919 over 1st 9 months of 1917 (D—Inclusive decrease)	Percent Increase in Fare paid during 1st 9 months of 1919 over 1st 9 months of 1917
A (2)	13	2,465,440,094	29.16	4.93	2,837,238,677	4.95	0.41	15.08	15.65
B (3)	11	908,511,165	10.74	4.98	1,005,987,031	5.31	6.63	10.73	18.11
C (4)	29	1,583,795,790	18.73	5.28	1,689,085,597	6.22	17.80	6.65	25.63
D (5)	15	1,521,714,987	18.00	4.62	1,406,987,088	6.55	41.77	7.54 (D)	30.97
A.L.L.	68	6,479,462,026	76.63	4.95	6,939,298,393	5.64	13.97	7.10	21.96

- (1) All systems operating in a transportation area where fares have not been substantially changed, or where fares have been changed uniformly, have been counted as a single system, as in New York City; where different systems in the same transportation area or different local divisions of the same system have had their fares raised in different proportions, so as to fall within different classes in Table IV and Table V, they have been counted as separate systems.
- (2) Cities or systems upon which there was no increase of fare from the first 9 months of 1917 to the first nine months of 1919, or upon which the increase in the average fare paid was less than 3 per cent.
- (3) Cities or systems upon which the increase in the average rate of fare paid during the first 9 months of 1919 as compared with the first 9 months of 1917 was between 3 per cent and 10 per cent.
- (4) Cities or systems upon which the increase in the average rate of fare paid during the first 9 months of 1919 as compared with the first 9 months of 1917 was between 10 per cent and 25 per cent.
- (5) Cities or systems upon which the increase in the average rate of fare paid during the first 9 months of 1919 as compared with the first 9 months of 1917 was more than 25 per cent.

increase of from 15 per cent to 25 per cent in revenues. Our analysis tends to substantiate his minimum figure.

There is still one possible element of doubt as to the soundness of the conclusions drawn from this analysis of the effect of fare increases upon traffic and revenues. The point may be raised that possibly the decrease in traffic in certain communities has been the *cause*, rather than the result, of fare increases. Unquestionably, the general tendency for a slowing down or a complete cessation of traffic development during the early part of 1918, and even more markedly during the later months of the year, when war and influenza combined to restrict traffic growth, accentuated the financial difficulties in which many street railway companies found themselves, and stimulated the general movement for fare increases. It is not possible, from a general survey of the statistics, to check with certainty and complete accuracy the relative position of traffic decreases as the cause or effect of fare increases in particular communities. Yet, some light will be thrown upon this matter by an examination of the traffic tendencies in the different communities prior to the dates when fares were increased. For example, it may be seen from Table I that both New York and Boston showed an actual traffic decrease in 1918 as compared with 1917, although the decrease in Boston was more marked than in New York. The 1919 figures show this tendency sharply reversed in New York, where fares remained unchanged, and sharply accentuated in Boston, where fares were radically increased. Taking the Philadelphia and New Jersey systems, we see that traffic in 1918 showed an *increase* on both systems as compared with 1917, although the increase was much less on the New Jersey lines than on the Philadelphia lines. The 1919 figures show that in Philadelphia, with no increase in fare, this tendency of traffic to increase was sharply accentuated, while in New Jersey, with a radical increase in fares, the tendency was reversed. In Detroit, Cleveland, Pittsburgh and St. Louis, where marked fare increases were in effect in 1918, the falling off in traffic was much more noticeable than in New York where the fares remained the same. In Detroit and Pittsburgh where the greatest increases in fare took place between 1917 and 1918, the falling off in traffic in 1918 was much more marked than in the other two cities, and indeed was more marked than in Boston where the average fare paid showed a considerable increase as a result of the 7-cent fare charged during the last two months of the 9 months period. These comparisons tend to substantiate the final results obtained by the general analysis summarized on Table VI. At the same time they do not quite prove that decreases in traffic may not be a contributory cause as well as a principal effect of fare increases in certain communities.

A number of witnesses laid great stress upon another point, namely, their conviction that even though traffic may fall off as the immediate result of fare increases it will gradually come back. An important distinction is to be made here. If fare increases mean merely the setting back of traffic growth for a period of seven years, as I have suggested in my comparison of the Boston and New York figures, and if under the higher rates, after this setback, traffic will start on again developing normally at the same rate as it develops in cities where lower fares are charged, then it may be urged that although the results of fare

increases are more or less painful and temporarily disadvantageous to the community, the ultimate results are not very serious; that the street railways will gradually redevelop the riding habit under the new fare conditions and "tag along" in the procession, with the only difference that they will be a few years behind other cities, where fare increases are not put into effect. On the other hand, if a radical increase in fares not only sets back the development of traffic but has the effect of stimulating competitive methods of transportation and of alienating the public so as to make it impossible for the street railways to get the full degree of cooperation that is necessary if they are to go on and prosper, then the results will be more serious.

We even have to consider in this connection the question as to whether or not the development of the riding habit beyond the point of necessity is conducive to public welfare, and, therefore, something that from the public point of view we should demand of the street railways. It is noteworthy that almost all authorities on health consider the walking habit as one of the most advantageous habits that can be formed. It may be that a close study of traffic conditions and of the social effects of transportation service would place a limit upon the demand for mere convenience riding. If so, the usefulness of the street railways cannot be accurately measured by the number of passengers they carry, and we cannot draw the firm conclusion that a diminution in the number of passengers carried means a corresponding diminution in the usefulness of the street railway as a public utility. It would be a mistake to become mawkish or sentimental in our advocacy of the riding habit and in our demand that financial considerations in the operation of street railways shall be subordinated to mere considerations of public convenience rather than public necessity. It always seems simpler and easier to deal with such a problem as local transportation as a distinct and separate problem without giving full consideration to its bearing upon other social and governmental problems, and perhaps it is safer in approaching the transportation problem to assume that the riding habit formed as a result of convenient service is entirely beneficial to the community.

From the point of view of the street railways there can be no doubt that the falling off of traffic as a result of fare increases, or the halt in the development of the riding habit from this or any other cause is an evil. Under certain conditions it may be the lesser of two evils, but it is nevertheless an evil. It is reasonably clear that the decrease in convenience or short-haul riding, whatever the cause of the decrease may be, tends to increase the average cost of the service rendered. It is a generally recognized fact that the high peaks of traffic at the rush hours constitute one of the greatest, if not the greatest, financial problem of the street railways. It is much more expensive to give the same character of service during the rush hours than at other times. If a company were compelled to furnish seats to all passengers during the rush hours, the cost in many cases would be prohibitive at present rates of fare. It is pretty clear that the rush hour traffic is, for the most part, a relatively long-haul, necessity traffic. The short-haul, convenience traffic is, for the most part, picked up during the day at off-peak hours. It can hardly be doubted that the result of fare increases is to accentuate the peak of the load by depressing the traffic valleys during the

non-rush hours and thus increase the practical difficulties and the financial difficulties of street railway transportation.

If a street railway is not receiving sufficient revenues to cover the full cost of service, and if it is impossible to make both ends meet by a decrease in expenses or by an increase in traffic, or by the development of other sources of revenue, then it is unquestionably necessary and proper that fares should be increased to the point where the car rider will pay the full cost of service even though the number who pay the cost is considerably reduced. This is merely a statement of obvious necessity. In other words, so long as the public depends upon private agencies to render transportation service, and so long as it insists that the service is necessary and must be rendered while at the same time it is unwilling to assume any public initiative in the matter or make any contribution to the cost of the service from the public treasury or otherwise, the agencies that perform the service must be permitted to collect from the users of the service all that the service costs if it is possible to do so, and if it is not possible, then the only limit upon the charges to be made for service will be the economic limit represented by the expression "all that the traffic will bear." The social consequences of higher fares may be, and in many cases doubtless are very serious, but this fact does not warrant or enable a community to secure through private agencies a continuous and necessary service for less than its necessary cost.

It is significant that the average fare paid per revenue passenger on those electric railways carrying three-fourths of the traffic for the entire country was 4.95 cents during the first nine months of 1917 and 5.64 cents, an increase of 13.97 per cent, two years later. During this period traffic increased 7.1 per cent and passenger revenues 21.96 per cent. On those systems where there was no appreciable increase in fares, traffic and passenger revenues increased 15.08 per cent and 15.65 per cent respectively. At the other end of the scale, where fares increased an average of 41.77 per cent, traffic fell off 7.54 per cent and revenues increased 30.97 per cent.

The Executive Secretary did not address special inquiries with respect to fare increases and their effect upon traffic and revenues to cities or street railway systems outside of the United States except in the case of the two principal Canadian cities, Montreal and Toronto. It was thought that the figures for Montreal might be quite important, as the Montreal Tramways Company two years ago entered into a new contract with the City of Montreal in which a service-at-cost plan without any maximum limitation on fares was incorporated. Under this contract the fares in Montreal, which were relatively low under the old franchise, have been increased on two occasions. The new service-at-cost contract was executed January 28, 1918, but it was not until October 3, 1918, that a new schedule of rates went into effect. A new rate schedule was fixed by the Montreal Tramways Commission, acting under the terms of the contract, in the summer of 1918, but an appeal was taken to the Quebec Public Utilities Commission, and the schedule proposed by the Tramways Commission was revised before being put into effect in October. These new rates proved insufficient to meet the entire cost of service as defined by the contract, and in 1919 again it became necessary to increase the fares. For the second time an appeal was taken

from the schedule proposed by the Montreal Tramways Commission, and the decision of the Quebec Public Utilities Commission increasing the rates did not go into effect until October 26, 1919. In view of the particular interest attaching to the Montreal service-at-cost experiment, it is worth while to make a somewhat detailed comparison of the changes that have taken place in the Montreal fare schedules. Prior to October 3, 1918, the day schedule, extending from five o'clock in the morning until midnight, included a 5-cent cash fare, six tickets for 25 cents or twenty-five tickets for \$1.00, good at all times and for all persons, ten tickets for 25 cents for school children, good at all times, and eight tickets for 25 cents, good for all persons between five o'clock and eight o'clock in the morning and between five o'clock and seven o'clock in the afternoon. Between midnight and five o'clock in the morning the cash fare was 10 cents. Transfers were free throughout the twenty-four hours. Under this schedule the average fare paid per revenue passenger during the first nine months of 1917 was 4.09 cents, and during the first nine months of 1918, 4.08 cents.

The first new schedule of fares installed in accordance with the terms of the service-at-cost contract was in effect from October 3, 1918 to October 25, 1919. The day rate under this schedule included a 6-cent cash fare, with five tickets for 25 cents, good for all persons and at all times, six tickets for 25 cents, good for all persons between six o'clock and eight o'clock in the morning and between five o'clock and seven o'clock in the afternoon on weekdays, and seven tickets for 25 cents for school children, good between eight o'clock in the morning and six o'clock in the afternoon on weekdays. For the "Owl" service, between midnight and five o'clock in the morning, the fare was 15 cents, whether by cash or tickets. Free transfers were continued under this schedule. The average fare paid per revenue passenger during the first nine months of 1919 was 4.79 cents.

The present schedule of rates has been in effect since October 26, 1919. The day rate includes a 7-cent cash fare, with book tickets at the rate of forty-four for \$2.50, or strip tickets at the rate of five for 30 cents, good for all persons and at all times, and tickets at the rate of seven for 25 cents, good for school children between eight o'clock in the morning and six o'clock in the afternoon on weekdays. The 15-cent "Owl" service rate and the free transfers are continued. The average fare paid during the month of November, 1919, with the present schedule in effect during the entire month was 5.84 cents per revenue passenger.

Comparing the traffic and revenue figures for the first nine months of 1919 with the first nine months of 1917, we find an increase of 17.11 per cent in the average fare paid; an increase of 4.61 per cent in the number of revenue passengers carried, and an increase of 22.55 per cent in the gross passenger revenue. Comparing the month of November, 1919, under the present schedule, with the month of November, 1917, which was before the service-at-cost contract went into effect, we find an increase of 43.84 per cent in the average fare paid; an increase of 1.92 per cent in the number of revenue passengers carried, and an increase of 46.83 per cent in the gross passenger revenue.⁴

It was also thought that the Toronto data would be of considerable interest because of the fact that both the Toronto Railway Company and the City of Toronto operate street railway lines. The Civic Lines were constructed by the

City in the suburban districts outside of the old municipal boundaries. The City undertook the construction of these lines because of the refusal of the Toronto Railway Company to build extensions into these suburban districts under the terms of its franchise contract. The Civic Lines have been operated for quite a number of years at a very low fare, and the losses from operation have been borne by the tax payers. Both the City of Toronto and the Toronto Railway Company furnished the data requested, but the Toronto Railway Company asked that the detailed figures be not published. The average fare paid on the Toronto Railway lines during the first nine months of 1919 was 3.9 cents. There had been no increase in fare, and consequently the average for 1917 and 1918 was approximately the same. On the Civic Lines the average fare for all three years was $1\frac{2}{3}$ cents. Traffic on the Civic Lines showed an increase of 56.8 per cent for the first nine months of 1919 as compared with the first nine months of 1917. On the Toronto Railway lines the increase in traffic over the same period was 13.91 per cent. The combined figures for the two systems showed an average fare of 3.72 cents for 1917, 3.66 cents for 1918 and 3.62 cents for 1919, the gradual decrease being due to the increasing proportion of the total traffic carried by the Civic Lines. The increase in the number of revenue passengers on the combined systems was 17.91 per cent for the first nine months of 1919 as compared with the corresponding period two years earlier, but owing to the slight decrease in the average rate of fare paid, the total passenger earnings increased only 16.5 per cent over this period.

A comparison of the combined Toronto figures with the latest figures from Montreal is quite illuminating, as shown by the following data:⁵

	<i>Montreal Tramways Company</i>	<i>Toronto Railway Co. & Toronto Civic Lines combined</i>
Average fare, November, 1917.....	4.06c.	3.68c.
Average fare, November, 1919.....	5.84c.	3.61c.
Increase in average fare, Nov., 1919 over Nov., 1917	43.84%	1.90% (Decrease)
Increase in number of revenue passengers, Nov., 1919 over Nov., 1917	1.92%	22.60%
Increase in gross passenger revenues, Nov., 1919 over Nov., 1917	46.83%	19.91%

The figures I have given prove beyond question that fare increases have not been great enough as yet on any important group of street railway systems in this country to result in a curtailment of revenues, but they have been great enough to cause a substantial curtailment of the usefulness of the street railway in certain communities. There is very little evidence that fare increases alone would put the electric railway business on its feet financially and enable it to function properly under private management for an indefinite period. On the other hand, there is a great deal of evidence to show that the public welfare would be sacrificed in important respects by the adoption of unlimited fare increases as the only remedy for the present financial difficulties of the industry.

CHAPTER XXIX

THE ZONE FARE OR DISTANCE TARIFF

The uniform flat fare has been a characteristic of American street railway policy from the beginning. Indeed, it may be said that, if the municipalities of this country have had any distinctive policy with respect to street railway development and street railway fares, it has been the policy suggested by the "one-city, one-fare" slogan. In the early days, when separate horse railroad companies were organized to operate individual lines, the ride given was comparatively short, but when the horse roads were consolidated and electricity was introduced a great expansion of the uniform fare area took place. The "one-city, one-fare" policy involved not merely a uniform flat fare for all initial rides, but also the necessity for free transfers. As the consolidated street railway systems expanded beyond the limits of the municipality and, in certain cases, reached out so as to combine the service of a group of municipalities covering an entire section of a state, it was obviously impossible to extend the uniform flat fare to cover the entire area of service. What happened was that the uniform fare, usually 5 cents cash with or without a reduced rate ticket, was made to apply in most cases within the limits of a given municipality and its immediate suburbs; and upon lines extending far into the country or to other urban centers zones were established, sometimes corresponding to town boundaries and sometimes on some sort of a mileage basis. Usually the fare in each of these outlying or interurban zones was the same uniform sum which applied within the one-fare city zone. In populous cities, especially in those covering large areas, the tendency of the "one-city, one-fare" policy was greatly to extend the maximum length of ride that could be taken for a single fare, until, in New York for example, on the rapid transit lines it is now possible to ride as much as twenty miles for a single fare of 5 cents, and this maximum ride for the unit fare will be increased to about 27 miles when the "Dual" rapid transit system is completed.

A great deal has been said about these magnificent distances covered by the 5-cent fare, and about the increase in the average length of haul on account of the extension of electric railway systems in great urban communities. With a uniform flat fare system in use it is difficult to get any accurate data showing the average length of ride per passenger, except as estimates are made through special traffic investigations and surveys. The hope of the uniform flat fare as a revenue producer lies in the expectation that as the street railway system expands and the number of long-distance riders increases there will be a corresponding or even greater increase in the number of short-haul riders. It is expected that the loss incurred in carrying long-distance passengers at less than the cost

of the service will be offset by the gain in carrying the short-distance riders at more than the cost of the service.

In Great Britain and European countries a quite different system of street railway fares is in use. The lines are divided into comparatively short zones, and passengers pay according to the distances they ride. This foreign system is referred to as a "zone fare" or "distance tariff." The theory of this system is that everybody who rides on the street railways should pay according to the length of his ride, upon the assumption that a payment based upon distance will come nearest to representing the cost of the service. It is also the theory of the zone fare or distance tariff that it will cultivate short-haul traffic by giving cheap rates for short rides. From the American point of view the "one-city, one-fare" policy, as opposed to the zone fare or distance tariff, has been supposed to be better adapted to social purposes on account of its alleged effectiveness in spreading out population and promoting suburban development.

It has long been a source of wonderment to British tramway managers that the American street railway systems could survive on the basis of the uniform flat fare. The increase in the cost of street railway service resulting from the economic changes that have grown out of the war has brought this problem of the uniform flat fare on American street railway systems to a head. Even though people in this country were generally accustomed to the payment of a nickel a ride for street railway service, it was shown before the war that in Cleveland and elsewhere the reduction of the unit fare below 5 cents was accompanied by a considerable increase in the riding habit. It has also been shown during the past two or three years that straight fare increases always or nearly always have the immediate effect of diminishing traffic, and the weight of the evidence presented to the Commission indicates that the greater the increase in the unit fares, the more will the traffic be reduced by the higher fares. Moreover, the riders who are driven away by the high unit fares are principally the short-haul riders, who prefer to walk or take a jitney rather than pay what they consider an excessive or unnecessarily high street car fare. It is generally agreed that the loss of the short-haul riders means the loss of the most profitable part of the street railway traffic. It is also believed that the loss of short-haul and convenience riders means the relative accentuation of the peak loads of traffic, which are already the greatest source of physical and financial difficulty for the street railway companies. It appears, therefore, that in a period of rising costs, increasing flat fares tend to neutralize their own effect as revenue producers by increasing the expense per passenger of the traffic that remains with the street railway companies.

The discrimination in the case of the uniform flat fare system between the person who rides only a few blocks and the person who rides 4, 5 or 6 miles, is obvious, even though the unit fare is as low or lower than 5 cents; but, of course, the lower the fare the less the short-haul rider resents the discrimination. However, when fares are being increased to 6, 7, 8 or 10 cents, the discrimination between the short-distance rider and the long-distance rider, who pay the same rate, is accentuated and brought to consciousness. There seems to be general agreement that street railway rates on the uniform flat fare basis may be increased to a point where the system will break down as far as the production of revenues

is concerned; the short riders will feel the discrimination against them so keenly that they will cease to use the cars, and the cost of service per passenger will follow closely upon the increased rate, and ultimately overtake and pass it. Clearly the present emergency in the electric railway business has subjected our historical American fare policy to a critical test. The issue between uniform flat fares and a zoning system is upon us and must be decided. It may be that a proper zoning plan, by its retention and development of the short-haul traffic, as well as by its increase in the rates paid by the long-haul riders, will be able to solve the financial problem of many a street railway company that could not, under present conditions, survive without substantial public assistance upon the old flat-fare system.

The importance of some of the issues involved was clearly set forth by the New Jersey Board of Public Utility Commissioners in its report of December 2, 1919, when it reluctantly permitted the abandonment of the zone fare experiment on the Public Service lines. The Board says:

"It has been consistently insisted and maintained by the Board that any rates fixed with a flat charge alike to all riders upon street railways as presently developed, are inequitable and discriminatory against the short-haul rider. In normal times and in the evolution of the development of street railways the flat five-cent charge for a ride, regardless of the distance permitted, was accepted by the public generally without a great deal of objection. With the advent of the highly increased costs of operation, due to increases in the costs of materials and labor, street railways throughout the country have been confronted with serious difficulties. To raise the additional revenue required, in localities where the flat-rate method of charging existed, the railways generally resorted to the plan most available of increasing the charge to the extent necessary to meet the requirements. This generally was resented by the patrons, particularly the most lucrative class thereof, viz., the short-haul riders. Many of these abandoned the use of the cars, and either walked or used other means of transportation. The jitney competition flourished, and the loss in patrons largely offset the calculated revenues which the increased rates were estimated to yield. In many instances companies have sought successive increases in excess of the previously existing five-cent rate, in some cases reaching the limit of ten cents. The history of the experiences of the various street railways employing this method to meet the difficulty indicate clearly that it threatens catastrophe to street railway transportation."

The issues involved in the abandonment of our characteristic American fare policy and the substitution therefor of some form of distance tariff are of the utmost importance to the electric railways, both from the point of view of their owners and from the point of view of the general public. So far as the owners are concerned, some adaptation of the distance tariff may prove to be their financial salvation under present operating conditions. On the other hand, the adoption of a distance tariff may have an adverse effect upon social conditions and bring results that the American public has always been anxious to avoid. From the point of view of the companies the difficulties involved in the adoption of the distance tariff are chiefly difficulties in the collection of fares and in accounting for them. These difficulties would not be serious except for the American habit of overcrowding the cars. It is admitted on all sides that where street cars during the rush hour are loaded so that there are twice as many people standing as people who have seats, the collection of zone fares presents a very difficult problem. Also, it is to be observed that the inauguration of a general zoning plan would add considerably to the difficulties in the use of one-man cars, as it is admitted that the motorman-conductor cannot be expected to handle collections expeditiously unless the fare system is a simple one. He can hardly be expected

to stop his car every little way to go through it and collect additional fares from the passengers. Another serious difficulty for the companies in the inauguration of a distance tariff may be found in the public disapproval that sometimes expresses itself with considerable violence where a long-cherished institution like the uniform street car fare is set aside.

The fact that the British municipalities operating municipal tramways have weathered the prolonged crisis of the World War in much better financial condition than the American street railway companies is undoubtedly due in part to the more conservative financial policies pursued by the British cities, but it may also be due in part to the fact that the British tramways have established their charges for service on the zone plan, and have, therefore, been able to readjust their charges to meet the increased costs of the war period much more readily than can be done by the American street railway companies using the flat fare system, even where they have the full cooperation of public regulating authorities in raising their rates. The zone plan as used on British systems is unquestionably much more flexible and adaptable to changes in economic conditions than is the American uniform flat fare system.

From the point of view of the public the introduction of the zone plan or distance tariff presents difficulties not only with respect to the distribution of population as such, but also with respect to the unsettlement of suburban and other realty values which have developed on the basis of uniform flat rates for electric railway service. But the main theoretical controversy with respect to the adoption of the zoning plan in this country rages about the problem of congestion of population. Those who favor the retention of the flat fare maintain that the old American policy is a good one; that it tends to spread out population and encourage suburban development, and that its consequences are so beneficial and so essential to the welfare of urban communities as to make a fundamental change in our fare policy undesirable. Those who favor the adoption of the zone plan contend, on the other hand, that the uniform flat fare system has had very little to do with the spreading out of population, and that the zone fare in vogue in Great Britain is not to any appreciable extent responsible for congestion of population in British cities. The issue is a momentous one, and it cannot be said that the evidence produced before the Commission is such as to enable us to answer with complete assurance the questions raised by it.

The American Electric Railway Association at its convention held at Atlantic City in October, 1919, received a report from the Committee on Zone Systems. Included in the membership of this committee were three men who had appeared before the Commission as witnesses for the Association. These were Dr. Thomas Conway, who had been connected with the zoning study conducted by the Public Service Railway Company of New Jersey, Mr. C. L. S. Tingley, Vice-President of the American Railways Company of Philadelphia, and Mr. Lucius S. Storrs, President of the Connecticut Company. This committee points out in its report that the higher net revenue required by the electric railways of the country can be secured only in one or more of three different ways: (1) by operating economies, (2) by a substantial increase in revenue per passenger, and (3) by a substantial increase in the number of passengers carried at a profit. The committee stated

its belief that "a zone system, where it can be properly applied, should tend to encourage riding in practically every case." It submitted the following fundamental definitions of terms:

"A *Zone System of Fares* is one in which the fare varies with the distance traveled, and might properly have been called a 'distance system.'

"A *Zone* is one of the relatively short subdivisions of more or less uniform length, into which a route is divided for the purpose of fare determination.

"There are four general forms of the zone system which have been considered by this Committee and are defined below.

"*Uniform Rate Zone System* is one in which the fare is directly proportional to the number of zones traveled in or through, that is, one in which the fare per zone is the same in each zone, including the first.

"*Initial Charge Zone System* is one in which the fare for the initial zone of any ride is greater than that for the succeeding zones.

"*Fixed Minimum Zone System* is one in which a certain rate per zone is charged, with a definite fixed minimum fare, which minimum disappears when the sum of the zone charges exceeds it.

"*Central Area Zone System* is one in which a flat fare or uniform charge, regardless of length of ride, within an established central area, is combined with zone charges on routes which extend beyond such central area.

"*The Uniform Rate Zone System* is a form which has been in use in England and other foreign countries for many years, and has there apparently encouraged short haul riding and improved the service load factor. It is, however, most discriminatory in favor of the short-haul rider, because cost of service is admittedly not directly proportional to the distance traveled."

With respect to some of the principal dangers and difficulties inherent in the adoption of a zone plan in this country, the committee said:

"In many localities there is a distinct danger that the uniform rate zone system would result in lower gross and net revenue on account of the large percentage of passengers which may be carried below actual cost. Short-haul riding and all riding must be encouraged, this being one of the principal objectives of any zone system, but great care must be taken that the short-haul rider is not too unduly or unfairly favored. It might be noted at this point that in general the English systems are municipally owned; discrimination is flagrantly practiced, and the rate of fare and length of zone are very largely based on what the traffic will bear, rather than upon what is fair and equitable to all classes of passengers. Furthermore, this form involves the maximum of fare collection difficulties, although it should not be condemned on that account.

"It has been widely claimed that zone systems produce congestion of population. If this were true, this congestion would be more highly developed with this form than with any other, but the facts are that foreign cities using this form are not really congested to any greater degree than many of our flat rate American cities. The tendency, however, in European cities is towards a more even spreading of the occupied territory, rather than to the uneconomical, haphazard and spotted development so frequently found surrounding our cities; it is probable that the zone system, in contrast to the flat fare, has something to do with this, thus changing the sociological argument to favor the zone system."

Near the end of its report, the committee gave voice to the following special warning:

"It is the thought of this Committee that where and when any zone system is contemplated the fact that the purchasing power of the dollar has decreased should be fully taken into account to the end that the minimum charge per passenger be not set too low."

Within the past six years modifications of the foreign zone plan have been introduced on several street railway systems of this country with varying degrees of success. The first noteworthy experiment of this kind in the United States was commenced in 1914 in Milwaukee, Wisconsin. There a central zone, extending roughly to the boundaries of the municipality, was established, and in this central zone the old uniform 5-cent flat fare was retained. Outside of this central zone the suburban and interurban lines were divided into zones of approximately one mile in length, with a unit fare of 2 cents per zone, and a minimum charge

of 5 cents good for two zones. Besides these cash fares there were reduced rate ticket fares both in the central and in the suburban zones. On June 1, 1918, after the cost of service had increased, the ticket fares were abolished, and since the hearings before the Federal Electric Railways Commission were closed the Milwaukee fares have been further increased. A 7-cent cash fare with six tickets for 35 cents or eighteen for \$1.00 in the city zone became effective in November, 1919. At the same time the fare in the outer zones was raised to 3 cents per zone, with twenty-five tickets for 50 cents.¹

Another zone fare experiment has been tried in Pittsburgh. It went into effect on June 20, 1918, and was continued until July 30, 1919, when the flat fare system in the urban district was restored. Under the experimental zone plan the urban territory was divided into two areas, referred to as the Inner Area and the Outer Area, with a flat fare of 5 cents in the Inner Area and a flat fare of 7 cents in the Outer Area and for rides from one area into the other. Tickets were sold in the Outer Area at the rate of eight for 55 cents. The Inner Area was defined by a radius of about $2\frac{1}{2}$ miles from the downtown center of the city. A free transfer was given where necessary for the completion of the ride within the area to which the cash fare applied. The revenues derived by the Pittsburgh Railways under the zone fare system proved to be insufficient, in the opinion of the receivers, and on August 1, 1919, the zones were abolished, and the uniform flat fare plan reestablished, but this time the rate was 10 cents in cash or $7\frac{1}{2}$ cents by metal tokens, the latter being sold at the rate of four for 30 cents. Mr. Charles A. Fagan, one of the receivers for the Pittsburgh Railways Company, explains at page 617 of the Proceedings the reasons which led to the abandonment of the zoning experiment in Pittsburgh, where he says:

"Mr. Warren: I judge from the method you are adopting of increasing the fare this time a flat increase to seven and a half cents for tickets and ten cents for cash that you have reached the conclusion that in Pittsburgh a flat increase is more desirable than dividing the city into two or more zones.

"Mr. Fagan: We thought so, because when the city was divided into zones, we got no credit from the people who lived in the cheaper zone, and it gave an argument to the people who lived in the higher zone against the inequity of the proposition."

A zone plan was introduced on the lines of the Rhode Island Company in Providence and the surrounding communities on May 5, 1918. Under this system 5-cent zones having a radius of $2\frac{1}{2}$ miles were established about the traffic centers of Providence, Pawtucket and Woonsocket, beyond which 2-cent zones about 1 mile in length were marked off. On the outlying lines a minimum fare of 5 cents, good for a ride through two zones, was established. This plan remained in effect until October 23, 1918, when the fare system was again changed. The inner zones were contracted to a radius of approximately 2 miles, outside of which were established a series of zones, the first about $1\frac{3}{4}$ miles in length and the second and succeeding zones about $1\frac{1}{2}$ miles in length. The 5-cent fare with a charge of 1 cent for a transfer was made applicable uniformly to all the zones, both city and suburban. On May 1, 1919, fares were reduced slightly on some of the suburban lines by a reduction in the number of zones. This change was made in an effort to recover some of the long-haul traffic which had been driven away by the excessive charges under the zone plan. On September 28, 1919,

the unit fare was increased to 6 cents per zone, and the transfer charge was increased to 2 cents, with no change in zone boundaries.² Mr. William C. Bliss, Chairman of the Public Service Commission of Rhode Island, describes the financial effects of the zoning experiments on the Rhode Island lines at pages 1182 and 1183 of the Proceedings, as follows:

"The effect upon revenues of the two-cent zone plan which remained in operation from May 5th until October 23rd, 1918, produced additional revenue, as nearly as it could be figured amounting to \$305,000 a year, compared with estimates of \$540,000. It produced that revenue in spite of the following factors:

"During the months of May and June it produced well up to the estimates and during the months of July and August, the street railway companies of New England all reflected a tremendous loss of travel. People were busily engaged in manufactures; the ordinary outings were given up, the dance halls that were operated six nights a week were open only on three nights a week; and there was a distinct falling off in travel reflected on all of the street railway lines, which was suffered by this company as well as the others.

"In the latter part of September and during October the influenza epidemic practically depleted it, so that under the increased rates of fare this company showed less gross revenue than it showed the year before.

"But even operating under all those unfortunate conditions the two-cent zone plan with the contracted five-cent center operated in Rhode Island to hold the traffic on the cars. There was very little if any loss of traffic on the part of the company, and it was believed by the commission that for that reason this easy gradation from five to seven to nine cents would hold the traffic, and the result of the operation of the plan showed it did hold the traffic and it did not work any undue hardship or any injurious economic or social results.

"The five-cent zone plan, that is, with the still further contracted central five-cent zone and with the five-cent units outside, with respect to a large part of our population which prior to May 5, 1918 paid 5 cents to get back and forth to the centers, made them pay 10 cents and was estimated to produce \$1,250,000 revenue. In practical operation for the period from October 23rd until the present time that has operated to produce only about \$350,000 out of the \$1,262,000 that was estimated. In other words, it fell short \$912,000 of producing the revenue that was estimated for it. There was a distinct loss of travel during the early months from October 23rd until April 1st, when we modified the interurban rate. Since that time the showing has been distinctly better, and if this increase had been based upon the showing of the months from April 1st down to the present time, the shortage would not have been nearly as great.

"In connection with the 5-cent zone plan it is to be noted that provision was made for the application of a one-cent charge for transfers. The one-cent charge for transfers was estimated to produce \$172,000 and has actually produced \$150,000 a year, which has operated to reduce the use of transfers about 15 per cent. It seems to have been received by the people without any complaint whatever, and possibly one of the reasons for that is that we have retained the central 5-cent unit, and I think many of the people living within that area feel as if they ought to pay more for their carfares, little realizing that the principle involved in retaining the 5-cent central unit is that the average of the short-haul travel really makes the short-haul traveler pay far more than he should pay for his transportation.

"The 5-cent zone plan as modified I have explained to you. It was modified simply in the interests of the company and the public to try to get more revenue out of the people, for in the final analysis the rate plus the traffic represents your gross revenue. You can put your rate up and drive your traffic unit so low that you are worse off. So that the company and the commission—and the results have proved the wisdom of it—have shown that the modification of this rate somewhat has operated to increase the traffic to such an extent that the company is better off with the lower rate than with the higher."

Mr. Bliss then goes on to explain the economic effects of the second zone plan by which the rates of fare to the outlying sections of Providence and to the surrounding towns were radically increased. His testimony on this point is unusually significant, as it indicates the tendency of such a plan to decentralize business. At pages 1183 and 1184 of the Proceedings, he says:

"Just a moment now to refer to the social and economic effects that we have noted with reference to the contraction of the 5-cent limit and creating 10-cent limits within the city of Providence. These outlying sections of the city of Providence pay 10 cents to get into the center of the city, and of course the outlying communities formerly in the 5-cent limits out of Providence are now paying 10 cents.

"The most marked effect has been in the case of Pawtucket and Providence, Pawtucket being a city which is north of Providence and borders on Providence, a thickly built up section all the way between the cities, so that from a social point of view they are all part of one community. The rate between Providence and Pawtucket, originally 5 cents, later 7 cents and now 10 cents, has operated to tremendously stimulate the business activities of the center of Pawtucket and to the same extent to take away the business from the center of Providence.

"The operation of the strike which limited the methods of transportation also operated to very greatly stimulate the business industries of Pawtucket.

"Olneyville, which is a business center to the northwest of Providence and a natural center of the car lines with a big mill population located around that center, has shown a tremendous increase in its business activities. The people come in and trade in Olneyville rather than to pay the other 5 cents to get on to Providence.

"The same thing is true in East Providence, where an overlap exists. The people save the 5 cents in and out of Providence and trade locally.

"In other words, the effect of this is to decentralize business. The merchants in the center of the city, the big department stores, are the losers by it, and I believe that the men who are the owners of the centralized business enterprises can well afford to not only pay the increased tax rate which would be involved in giving up their franchise taxes and paying obligations on the part of the company, but also could go out there and subsidize these roads to retain a low rate of fare to the center.

"Commissioner Gadsden: From the social standpoint why is not that a good result? Why should not the towns trade with themselves instead of going to some other towns, from the social standpoint?

"Mr. Bliss: Well, I assume that centralized business operations can be carried on with the greatest economy and I presume there is greater economy, I think it is shown there in the case of the big public markets in Providence, which are carried on on a cash basis; I think the prices reflect the ability of these companies to do business in a large way and deal with a large number of people. In other words, one set of overheads is applied to larger business while the separate overheads applied to smaller markets would operate to greatly increase cost."

The question was raised as to whether this effect of the zone fares upon the decentralization of business might not be temporary rather than permanent. This question evidently involves a consideration of popular psychology which all the evidence before the Commission shows to be a matter of prime importance in any possible solution of the street railway problem. At pages 1184 and 1185 of the Proceedings, the following questions and answers throw light upon this point:

"Commissioner Meeker: If the department stores can conduct business so much more economically than the smaller stores in outlying communities, will the people not eventually learn that and trade in the central districts of Providence as they did before?

"Mr. Bliss: Well, if—

"Commissioner Meeker: If the economy of centralized business is sufficient, then the people of Pawtucket and the outlying districts could well afford to pay the extra street railway fare?

"Mr. Bliss: Well, I think that is largely a question of psychology on the part of the housewife. When the housewife figures the actual 10 cents that she has got to pay or 20 cents to go in and out of Providence now from the suburbs, and the question of going down to the corner grocery and the 20 cents that she can see plainly, that she would save perhaps by the lower priced goods, that she perhaps cannot see that so plainly. But I am simply pointing out to you the actual effect of the application of these increased rates so far as the decentralization of business is concerned.

"Commissioner Meeker: Yes, we have to recognize that man is far from being a rational animal. He does not act as the economic man is alleged to act. For example, when the price of milk increased 1 cent in Boston the amount of milk consumed was cut in half, although at that increased price milk was still the cheapest food product.

"Mr. Bliss: Well, the same thing is true with regard to transportation. There never has been on the part of those in public positions or on the part of the press any disposition to prevent the facts of the problem clearly being presented to the public, and the public have shown an animus and with the application of these increased fares they walk down to the 5-cent points, and everybody was talking against the company, and the public, acting in the same irrational manner that you have referred to, were simply hurting themselves, because every bit of revenue that they took away from this company so much the sooner forced a still further fare increase."

The chief argument against the zone plan, from the public point of view, has been that this plan tends to congestion of population. The experience of Providence, where the observed effect of the zone plan has been to encourage decentralization in business, seems to weigh against the congestion argument. In fact, under the conditions prevailing in that community, Mr. Bliss observed no tendency to congestion of population as a result of the increased fares from the central area to the outlying zones. On this point, at page 1185 of the Proceedings, he says:

"The social effects have not been so marked. That is, you would naturally expect under a substantially increased fare that we have applied that you would have the centralization of residence on the part of the people; they would all crowd within this 5-cent area. The lack of housing accommodation has operated in such a way as to show but very little effect upon the people socially. There seems to be no less a demand for tenements outside the 5-cent limits than within. And while that tendency I think would be very marked with the resumption of normal conditions and the resumption of building, I think under the present emergency conditions there has been no serious effect from that."

Still another important experiment with the zone system is being carried on by the Eastern Massachusetts Street Railway Company on the Bay State system, which includes over 900 miles of track serving most of the cities of eastern Massachusetts. The zone fare was inaugurated on this system on June 24, 1918, when a series of central city zones were established with a 6-cent fare, and the lines outside of these city zones were divided into suburban or country zones approximately 1 mile in length. On most of these outlying zones the fare was 2 cents per zone, but on certain light lines the fare was $2\frac{1}{2}$ cents per zone, and in some cases 3 cents per zone. In all cases, however, the minimum fare collected was 6 cents. This system continued in effect until January 8, 1919, when it was modified by the expansion of the size of the city zones and by the consolidation of approximately every two of the country mile zones. At this time the fare in the city zones was increased to 10 cents cash or 7 cents by tickets, which were sold in strips of five. On the country zones the cash fare was 5 cents per zone, with a 10-cent minimum. The 7-cent tickets were also good on the country zones. Finally, on July 1, 1919, the 7-cent tickets on the Bay State system were withdrawn, leaving the cash fare 10 cents in the city zones and 5 cents per zone in the country, with a minimum of 10 cents. Since then, the zone system has been retained, but the Board of Public Trustees operating the Eastern Massachusetts Street Railway Company has been conducting a series of experiments with differential ticket fares in a number of cities.⁵

Zone plans have also been tried on certain other electric railway systems in Massachusetts, notably those centering in Springfield and Holyoke. The Springfield zone plan, approved by the Massachusetts Public Service Commission on March 30, 1918, was quite complicated. The original 5-cent fare area, slightly enlarged, was divided into an inner zone and an outer zone, with a 5-cent fare in each. Tickets were sold at the rate of six for 40 cents, good for rides from any point in the inner zone to any point in the outer zone not more than five miles distant by the car track from the traffic center. Tickets at the rate of six for 50 cents were sold, good for a ride from any point in the inner zone to any point in the outer zone, without limitation. Beyond the limits of the second zone,

additional zones of about 1 mile in length were established, with a zone rate of 2 cents per mile and a minimum fare of 6 cents, good for a ride through three zones. This system went into effect May 1, 1918, but it was found necessary a few months later to increase the rates of fare under the zone plan. On September 16, 1918, the cash fare in either the inner or the outer zone was raised to 6 cents, and the zone rate outside of the city area was increased to $2\frac{1}{2}$ cents per mile. The ticket rates were also increased from six for 40 cents to six for 45 cents, and from six for 50 cents to seven for 65 cents. On October 19, 1919, the fares were again increased. The cash fare on the Springfield zones and on certain other divisions was increased to 7 cents, and the rate on certain of the outlying lines was increased to 3 cents per mile. The ticket rates were increased from six for 45 cents to eleven for \$1.00, and from seven for 65 cents to nine for \$1.00.⁴

On the Holyoke street railway system a central zone with a radius of about four miles was established in December, 1918, with a 7-cent fare. Beyond the limits of the central zone the lines were divided into zones about two miles in length, and a fare of 5 cents per zone was charged. In December, 1919, a uniform fare of 6 cents per zone was established on the Holyoke system.

Interstate Commerce Commissioner Eastman, who was a member of the Massachusetts Public Service Commission for several years during the period when the street railway problem in that state was most acute, expressed the opinion that the zone fare plan is still in the experimental stage in this country. His testimony on this point is found at pages 2074 and 2075 of the Proceedings, as follows:

"The Chairman: You have had quite a little experience with the zone system, and your testimony shows that your zones have been narrowed and extended and expanded and in some cases abandoned, I believe. Generally speaking, do you believe that a zone system is a proper system?"

"Commissioner Eastman: Well, that is a very difficult question. As I say, I at first was very much attracted by the theory of the zone system. It seemed to me it made the rider pay in proportion to what he got and it also enabled the company to attract the short distance rider. And, if you had originally started on that basis I think in all probability it would be a proper system to adopt in this country just as they have done in Great Britain, for example.

"But when a community has grown up on the other basis, it undoubtedly causes a serious dislocation, in many cases, by suddenly changing the system from a flat fare system to a zone system, so that some people will still retain their five-cent fare and others will have to pay a much higher fare. And it was my experience that the introduction of the zone system caused more irritation on the whole than a flat increase in fare.

"The Chairman: Did that irritation continue for a long time?"

"Commissioner Eastman: Well, of course, a good many of the things, relatively speaking, have not been in operation very long.

"The Chairman: Has the system been in operation long enough to enable you to form a judgment as to whether it tends to decentralize a community or scatter industries over larger areas?"

"Commissioner Eastman: No, I do not think that I have any very positive information on that subject. I suggested to the Commission of Massachusetts which is now investigating the street railway situation that they should endeavor to collect all the direct and positive information that they could in regard to the effect of the higher fares. I saw in one of the Boston papers the other day that the ten-cent fare there is causing a great demand for tenements and lodgings within walking distance of the central districts, and that the demand is much greater than the supply. I was told in some of the cases of the Bay State cities, and I think it was Lynn, that an investigation was made after the establishment of the zone system, and it was found that houses and apartments could be easily secured outside the central district, but that within the central district the demand was much greater than the supply there, showing the tendency of population to move inward.

"Mr. Warren: Where was that?"

"Commissioner Eastman: Lynn. But I do not think the experience has been sufficient at the present time to do anything more than to raise the possibility of danger in that respect. In other words, it is no positive proof.

"The Chairman: Do you regard a zone fare as still in the experimental stage in this country?"

"Commissioner Eastman: I should say so."

I have already called attention to the fact that with the inauguration of the zone plan on the Bay State lines the company stopped counting the passengers, so that it is impossible to get accurate and detailed figures with respect to the effect of zone fares on traffic on that system. The same is true of the zone system established on the lines of the Cumberland County Power and Light Company in Portland, Maine, and vicinity, as I have also pointed out. In Portland the zone system was originally put into effect in October, 1918, but was considerably modified in March, 1919, and the fares were increased in June, 1919. Under the present Portland plan the city area is divided into three zones, and the lines outside of the city limits are divided into zones approximately one mile in length. The company has adopted a plan to induce the car riders to use tickets instead of paying cash. Within the city area the minimum cash fare is 9 cents, which is good for a ride through three zones, but tickets are sold by which the fare is reduced to 7 cents. On the outlying zones the cash fare is 3 cents per zone, with a minimum charge of 9 cents, good for three zones, and the ticket fare is $2\frac{1}{3}$ cents per zone, with a minimum charge of 7 cents. The system is explained by Mr. A. H. Ford, Vice-President and General Manager of the Cumberland County Power & Light Company, at page 355 of the Proceedings, where he says:

"We have 106 miles of track, and the system was divided up into practically mile zones and a charge is made of so much for each zone. Our rate at the present time is $2\frac{1}{3}$ cents for a zone, the city proper being divided up into three zones, making a 7-cent fare.

"The Chairman: Do you mean by that that there is a rate of less than 3 cents within one zone?"

"Mr. Ford: Yes, sir; that is, you can ride on an initial ride of three zones for 7 cents, and then—

"Mr. Warren: That is the minimum initial fare?"

"Mr. Ford: Yes.

"The Chairman: For the shortest ride?"

"Mr. Ford: Yes, the initial ride of three zones.

"Mr. Warren: Or less. If you ride one mile you pay 7 cents, or three zones.

"Commissioner Sweet: How about one block?"

"Mr. Ford: Seven cents.

"Mr. Warren: That 7 cents, however, is good, if you want to go so far, for three of your zones?"

"Mr. Ford: Yes.

"Commissioner Sweet: That would be in a continuous journey?"

"Mr. Ford: Yes, but if you want to ride four zones you pay $9\frac{1}{3}$ cents, but it is handled by a system of tickets. A zone ride ticket, which is the popular ticket used, costs 35 cents. Then we have what we call a 15-zone ticket that costs 35 cents. So that the passenger supplies himself with two kinds of tickets, the 7-cent ticket, five rides, and the 15-zone ticket, and if he wants to make four zones the conductor punches one ticket out for the 7-cent ride or the 3-zone ride and then he punches one of these 15-zone coupons out for the extra one that he rides.

"Mr. Warren: How many zones are there in the city limits?"

"Mr. Ford: Three.

"Mr. Warren: Then am I right in thinking that the net effect of that system in the city limits is a 7-cent fare?"

"Mr. Ford: Yes, sir.

"Mr. Warren: Just the same as if you had a flat 7-cent fare in the city of Portland?"

"Mr. Ford: Exactly."

Mr. Ford states that so far as he has observed, the Portland zone fare plan has not tended to create congestion of population. His testimony upon this point is found at page 360 of the Proceedings, as follows:

"Commissioner Meeker: You think the institution of the zone system will not have any appreciable effect upon the growth of the community, centering the population rather than spreading it out as in times past, so as to diminish the rate of increase?"

"Mr. Ford: I think not. The zone system is in my judgment the fairest way to fix a rate for the reason that people pay for what they get.

"Commissioner Sweet: When did you establish the zone system?"

"Mr. Ford: That was established October 2nd last year.

"Commissioner Sweet: 1918?"

"Mr. Ford: Yes, sir.

"Commissioner Sweet: Since that has been in operation have you noticed any tendency to greater congestion in the center of your city?"

"Mr. Ford: No, sir."

Obviously, a zone system within the old 5-cent fare area of the city of Portland that is in effect the same as a 7-cent flat fare could not be expected to affect congestion in the way that a distance tariff is expected to affect it.⁵

The two most important experiments with the zone fare plan thus far made in this country are undoubtedly those made by the Public Service Railway Company of New Jersey and by the Connecticut Company. The New Jersey experiment was made at the instance of the Board of Public Utility Commissioners. In March, 1918, the Public Service Railway Company applied for emergency relief in the form of an increase of its uniform unit fare from 5 cents to 7 cents, together with a charge of 2 cents for each initial transfer and 1 cent additional for a second transfer. The New Jersey Commission, in a decision rendered July 10, 1918, dismissed the company's application for a 7-cent fare, but authorized it to institute a charge of 1 cent for each initial transfer. Prior to this time the Public Service Railway lines had been divided into broad zones, in each of which the uniform flat 5-cent fare had been charged, as required in many cases by ordinance contracts with the several municipalities served. Early in 1918, however, the New Jersey courts had decided that the state commission was vested with authority to increase a street railway company's rates beyond the limits fixed by its local franchises. In its order of July 10, 1918, the New Jersey commission discussed the question of readjustment of fares as follows:

"Numerous witnesses produced by the petitioner clearly indicated as their opinion that the flat rate fare system was an inheritance from horse-car days and was in no sense a scientific or proper charge for the service rendered. While the Board's power to increase railway fares despite the existence of a municipal ordinance specifying the maximum fare to be charged has been sustained, an important question would arise as to whether we would countenance a horizontal raise of the uniform five-cent rate without an investigation of the nature and extent of the service rendered for the fare charged and all the elements involved therein. The charge for the service does not bear any fixed relation to the service. Under the present existing five-cent uniform rate, some passengers are permitted to be carried a considerably greater distance for the same rate than other passengers. This may unduly discriminate against the short-haul passenger or short-rider, and any horizontal increase in the flat rate would further exaggerate this discrimination.

"The witnesses for the company further testified that in the event of a horizontal increase in fares it was reasonably certain that the traffic would diminish by from fifteen to twenty per cent, and that this loss of traffic would be the short-haul traffic, for the reason that most of the short-riders in cities would walk rather than use the cars at the increased fares.

"If the intimations of the president of the company are correctly interpreted, we can expect with the advent of normal times after the war an application by the company for a readjustment of fares on its lines, and the matter as to the method of raising revenue and adjusting rates having been so fully discussed in the present application, we are of the

opinion that it would not be remiss for us to suggest that the company make a comprehensive study of the question for future use. It is important to the public as well as to the company that the short-haul traffic business should be retained. Such business may be the determining feature which will make possible a general reduction of fares, inasmuch as the best method of developing is clearly to retain a low minimum fare. Admitting the necessity for modification of the fares charged, some method can certainly be devised by a proper study of the company's system. While the system is extensive, covering nearly a thousand miles of track, it is separated and operated in six divisions and is capable of a practical zoning system."

The commission therefore directed the company to file or submit before January 1, 1919 "a plan whereby the method of charging at present in force may be revised by an equitable zoning system over its entire territory, proper consideration being given to all of the elements to more properly relate the cost of service with the length of haul and value of service." Subsequently, on account of certain wage increases awarded by the National War Labor Board, the company was permitted to put in the 7-cent fare pending the proposed investigation of zoning. Acting under the direction of the commission, the company made an elaborate study of the problems involved in a change from the uniform flat fare to a zone system, and submitted a voluminous report upon this subject in March, 1919. In this report the company proposed a division of its entire system of more than 800 miles of track into nearly uniform mile zones, and suggested the establishment of a minimum charge of 5 cents for a ride in one zone, and a further charge of 1 cent per zone mile for any distance ridden beyond the first zone. The company also suggested a charge of 1 cent for a transfer, with an additional charge of 1 cent per zone mile for any distance ridden on the transfer. This scheme rejected entirely the central zone idea which had characterized the zone plans previously tried in this country. At the same time, the New Jersey plan did not go the full length of adopting the distance tariff upon which British zone plans are based. Instead, the authors of the plan attempted a detailed analysis of the cost of service upon the theory that just and reasonable rates should be worked out not strictly according to the length of the rides taken, but on the basis of a combination of two factors, referred to as "standby" and "movement" costs. Their idea was that the amount paid for a particular ride should be made up of two elements: (1) a "readiness-to-serve" charge which would be the same for every car rider, and (2) a "movement" charge which would vary according to the distance traveled. As a result of its analysis of costs the company arrived at 3.384 cents as the average "stand-by" cost per passenger under the conditions prevailing at the time its zone report was filed in March, 1919. It arrived at $\frac{9}{100}$ of a cent per mile as the average "movement" cost per passenger. A strict application of the theory upon which its analysis was based would have required it to ignore transfers and to treat a passenger using a second car on any given trip as if he were taking two entirely separate and independent rides. The company realized, however, that such a result of its analysis would not be acceptable to the riding public, which had long been accustomed to free transfer privileges. Therefore, in the schedule of rates proposed, it effected a compromise by which the transfer passenger would be let off with a "stand-by" charge of 1 cent only, while the "stand-by" charge for the initial ride would be increased from the theoretical 3.384 cents to an even 4 cents.

This proposed schedule of zone fares was subjected to considerable criticism by the Associated Municipalities of New Jersey, on the ground that it was too inflexible and that the company's analysis of standby and movement costs was of little or no significance in the establishment of either a scientific or a practicable street railway rate schedule. The charge of inflexibility was proven by the fact that while the hearings before the New Jersey Commission were still going on the company found itself confronted with additional expenses on account of a new wage increase awarded by the National War Labor Board, and was unable to suggest a modification of its zone fare schedule to produce the additional revenue required without getting away from some of the fundamental principles of its plan. As a result of evidence produced by the municipalities to the effect that low fares for short rides have been effective in other jurisdictions, particularly in Great Britain, in stimulating short-haul traffic, the Public Service Railway Company submitted to the New Jersey Commission a new proposal under which the mile zone system would be retained, but the initial fare for a ride through a single zone would be reduced to 3 cents, and the charge for each additional zone would be increased from 1 cent to 2 cents, all transfers and transfer charges being done away with. The commission, in a report dated July 30, 1919, authorized the company to put this new plan into effect. Accordingly, on September 14, 1919, the much heralded zone experiment was inaugurated on all the Public Service Railway lines. The results were little short of disastrous. In Camden and vicinity public disorders and riots ensued, and the people established a boycott against the street car service. General dissatisfaction prevailed throughout the state of New Jersey. The abolition of transfer privileges, the rapid piling up of the charges against the long-distance riders, and the slowing down of operating schedules on account of delays in the collection of fares, all combined to make the new system unpopular. From its point of view, the company found that the new rates produced much less revenue than had been produced by the uniform 7-cent fare with a 1-cent transfer charge. After a very short time, therefore, the company applied to the commission for permission to abandon the zone plan and go back to a flat fare schedule. The commission was loath to grant this request, because it felt that a fundamental principle to which it had given its adherence was at stake, and that the zone plan had not yet received a fair trial.

The commission, in a report dated October 23, 1919, refused the company's request to abandon the zone plan, and recommended instead that the plan should be modified so as to meet some of the most serious objections thus far developed in connection with its practical application. The 3-cent fare for the initial zone had apparently failed to accomplish much in the way of developing short-haul traffic. The commission suggested therefore, that the 5-cent minimum rate be restored, but that it be made to cover a ride of two zones instead of one, and that beyond the two zones the additional charge should be 1 cent per zone mile. It also recommended that the transfer system be reestablished, with a transfer charge of 1 cent. The company at first refused to accept this recommendation, but finally did accept it, and the new rates were put into effect November 16, 1919. The results from the company's standpoint were even more disastrous under this plan than they had been before, and the commission was finally persuaded to

permit the company to restore the 7-cent fare. In its report of December 2, 1919, the commission says:

"We are of the opinion that neither a sufficient nor a fair trial of the plan under the existing rates has been had or under present conditions is practicable. The trial, however, has alike been costly to the company as well as to the principle involved. By its calculations the company shows that under the present plan, with the present rates, at the end of the present year it will have an actual operating loss of \$750,000 after the payment of fixed charges and taxes, exclusive of any sum whatsoever for depreciation reserve. A careful analysis of these figures is not necessary, as it is evident that neither rate under the zone plan has yielded as much as the flat rate of seven cents would have yielded had it been continued in effect. Neither is it necessary to determine whether the flat rate of seven cents, with one cent for a transfer, will yield the amount of revenue which the company estimates it will yield. The company's officials believe that it can 'pull through' until the pending proceedings are finally determined, and are satisfied to be permitted to make such a change.

"On December 1, 1919, interest on outstanding bonds of the company to the amount of approximately \$750,000 became due. Other large amounts of interest on outstanding bonds will become due on January 1st next. The company was without sufficient funds to meet it, and was required to borrow it. Bankers were unwilling to loan the necessary funds to it if the zone system were continued in effect, and would make the necessary advances if the flat fare of seven cents and one cent for a transfer is restored. It was alleged that in the event of default on the bond interest insolvency would result, terminating in a receivership.

"It is evident that the company's receipts under the zone plan are not sufficient for it to remain solvent. The bankruptcy of an important public utility is always accompanied by adverse conditions which affect not only investors in its securities, but the public served by it. That a public utility may remain solvent is not controlling in fixing its charges, but the Board cannot, with the knowledge that bankruptcy would likely result, insist upon a rate unless it clearly appears that the rate is just and reasonable and should be imposed without regard to its effect upon the securities of the company. As has been stated heretofore, the Board is now conducting a proceeding which will result ultimately in the fixing of a rate just and reasonable to the public and which will afford a fair return to the company upon the value of its property used and useful in the service of the public. The Board does not have sufficient evidence to justify it in determining that the existing rate is one which can be ordered continued without regard to the imminent insolvency of the company.

"In view of all the facts and circumstances involved, the Board regrets that for the time being at least the zone plan, the principle of which has commended itself to our judgment, must be discontinued and the rates of fare in effect before its adoption again charged."

The New Jersey fiasco was little short of a tragedy to those who had begun to look upon the adoption of the zone system as a possible means of restoring the electric railways of the country to a condition of financial vigor. It came just at a time when the American Electric Railway Association was giving careful and hopeful thought to the solution of the practical difficulties in the way of the adoption of the zone fare system in this country. Indeed, while the Association was assembled in convention at Atlantic City early in October, 1919, the newspapers were full of the echoes of the zone fare riots in Camden and of the Public Service Railway Company's demands that it be permitted to abandon the zone system as a failure. Nothing deterred, however, the Connecticut Company proceeded to put into effect upon its lines in New Haven, Hartford, Bridgeport, Waterbury, New Britain, Middletown, Meriden, Norwalk and Stamford and on the rural lines connecting these cities, a comprehensive zone plan, which was described at length by Mr. Lucius S. Storrs in a letter to the Executive Secretary under date of December 2, 1919. Mr. Storrs says:

"In laying out our zone plan we divided the property into three groups: first class cities such as Hartford, New Haven, Bridgeport and Waterbury, second class cities comprising the remainder, and, third, the country lines. We took the traffic center in each city as the central point and starting from this point the zones were laid out by steel tape measurements as the track runs on the basis of one and one-half miles for the first zone with additional zones of one mile, the number of one mile zones depending upon the density of population; this applying to the first class cities. In the other cities the first zone from the traffic center is 1.2

miles in length and as the density of population usually begins to fall off materially at this distance from the center, there are no one-mile zones. The country lines are divided into zones eight-tenths of a mile in length.

"Our rate is six cents for the first two zones and two cents for each additional zone, transfers being issued in all cases where a passenger has to change cars which will enable him to complete two full zones for his initial fare. You will see, therefore, that a passenger who rides across the center in the first class cities may obtain a maximum ride of three miles for six cents, which is at the rate of two cents per mile, and continue at this two cents a mile rate until the country territory is reached where the rate is two and one-half cents per mile, the zones having been fixed at eight-tenths of a mile in order that this rate may be collected in two-cent increments. In the other cities the maximum six-cent ride is 2.4 miles, which gives us the same rate per mile as on the country lines.

"The method of collection is very much the same as that used by the Public Service Railway with which I presume you are familiar. The passenger enters at the front door, is given a zone check by the motorman which indicates the zone in which he boarded the car, and upon leaving the car hands the zone check to the conductor who advises him the amount of his fare, which the passenger is required to deposit in the registering fare box. All of our cars are equipped with Johnson fare boxes and the conductor is not allowed to deposit any money in the box.

"We have adopted a metal ticket which is sold in packages of 17 for \$1.00, or in broken lots at six cents each, which materially lessens the number of coins which the conductor is required to grind through the box.

"A tariff card, which indicates the zone in which the car is and the rate of fare to that zone from any other zone, is provided for the use of the conductor and information of the passengers. * * * The motorman is not required to operate one of these as is the case in New Jersey.

"We realized that in order to inaugurate such a radical change in fare collection methods it would be necessary that the public be fully informed as to the details and our employes thoroughly instructed in the methods of operation. Both of these matters received the closest of attention and for a period of several weeks we gave the public full information relative to specific zone points, rates and the methods which we expected to pursue in the collection of the fares.

"The car crews were divided into classes of ten and each class received three hours of instruction culminating in an examination in which each individual was obliged to demonstrate to the instructor that the operation was thoroughly understood. We also held meetings of the employes on the different divisions at which the need of the company for additional revenue was fully explained. The result of all of this was that we inaugurated the system on November 2nd, with our employes thoroughly instructed and exhibiting a fine spirit of cooperation and the public fully informed.

"In the beginning we experienced considerable delay and consequent irregularity of schedules, but succeeded in handling the industrial operatives so that practically all of the vast number using our cars to get to the factories were delivered on time the first morning and have been so handled since that time.

"We experienced no trouble whatever from rowdiness. After a few days, conditions became normal and we have had no disruption of schedules due to the method of fare collection. Our conductors pass through the cars and make change for the passengers and issue transfers so they have the exact fare ready to deposit in the box and the unloading is, therefore, facilitated. As a matter of fact it requires less time to unload a car with the passengers paying out than it did to load a car under the P. A. Y. E. system.

* * * * *

"Under the Connecticut law we are able to change a company-made rate at any time without the consent of the Public Utilities Commission. However, upon petition of any ten individuals or from any municipality the commission is required to investigate and decide whether or no the rate is reasonable. Such petitions have been sent to the commission by a number of the municipalities and civic organizations and the hearings on same will begin next week.

"The increase in revenues of November this year over November last year is showing approximately 20 per cent. The influenza epidemic as affecting this territory last year was over by the first week in November, having started about the middle of September. In this respect we differed in this portion of New England from experiences in points in New Jersey and points south and west, in that the epidemic was not of as long duration and started earlier.

"What is most gratifying in connection with the revenue is that our receipts are increasing from day to day, showing a return to the cars of short-distance riders who always abandon the service with any change whatever in rates of fare or service changes.

"I understand that statements have been made outside of Connecticut jurisdiction that neither the public nor our men were satisfied with the system. May I say from the standpoint of the men there is the most loyal cooperation and while, of course, individuals will be found in an organization as large as ours who are critical to any change whatever in their accustomed methods, a large majority of them are favorably disposed, and in fact many of them have

expressed themselves as preferring this method of collection to the old system. The system accomplishes what we have all been hoping for, namely, a closer relation between the train crews themselves and the public on the cars, thus emphasizing the personal equation, which is, of course, of great value."

In another letter, dated January 15, 1920, Mr. Storrs gives the gross passenger revenues of the Connecticut Company by months for the years 1917, 1918 and 1919. In that connection, he says:

"Fortunately I have been able to include in this (retabulation) earnings for the months of November and December, during which period we were operating under the distance tariff throughout our entire territory, and you will note the figures show a very satisfying increase in gross."

As a matter of fact the increase in gross passenger earnings for these two months as compared with the same months of 1917 was 18.48 per cent, while the increase in the month of October, immediately preceding the adoption of the zone system, was 17.65 per cent. The difference is so slight as to be negligible.

The zone plan placed in operation by the Connecticut Company in November, 1919, was modified in May, 1920, as a result of a decision of the Connecticut Public Utilities Commission handed down in April. One of the most important changes effected by this decision is the establishment of a uniform system of one-mile zones on all the company's lines, similar to that which was put into effect temporarily on the lines of the Public Service Railway of New Jersey. The fare remains 6 cents for the first two zones, but the cash fare for each additional zone is increased from 2 cents to 3 cents. A zone ticket book containing 50 tickets is to be sold for \$1.00, with not less than 3 tickets to be collected for a ride in three zones or less, and one ticket for each additional zone. Monthly commutation tickets, good for daily rides between traffic centers of cities with a population of 25,000 or more and points 5 zones distant from the traffic center, are to be sold at the rate of 1.75 cents per zone per ride. School tickets are to be sold at the rate of 1 cent per zone, with an initial charge of 3 cents for a ride of 3 zones or less.⁶

In his testimony before the Commission, Mr. Storrs took the position that the zone system would be good for the company but bad for the community. At pages 456 and 457 of the Proceedings, he discusses this matter with Commissioner Sweet as follows:

"Commissioner Sweet: Do you think that the fares charged ought to be in proportion to the distance?"

"Mr. Storrs: You are getting down to the fundamental theory there, on which the American city has been developed. That is the universal fare throughout an entire area. Now, we are coming down to fundamentals.

"Commissioner Sweet: Well, on the steam railroads, from city to city, the custom, of course, throughout the country is to charge according to the number of miles, at so much a mile?"

"Mr. Storrs: Yes.

"Commissioner Sweet: Is that feasible on the electric railways?"

"Mr. Storrs: Yes; unquestionably it can be made feasible, and should be made so.

"Commissioner Sweet: It can be made so?"

"Mr. Storrs: Yes.

"Commissioner Sweet: Well, what would the effect of it be?"

"Mr. Storrs: Well, we would naturally hope for improvement before we would ask to put it into effect.

"Commissioner Sweet: From the standpoint of the railway, do you think it would result in a remedy?"

"Mr. Storrs: Yes.

"Commissioner Sweet: And it would help them out of their present situation to a very considerable extent?"

"Mr. Storrs: We hope so.

"Commissioner Sweet: That is, assuming that people paid the fare, and that they did not lose any traffic to a large extent?"

"Mr. Storrs: Yes.

"Commissioner Sweet: What would be the effect, based upon the general community?"

"Mr. Storrs: It cannot help but have the effect of gradually drawing in all of the tenement districts to the inner zone of the city.

"Commissioner Sweet: In European cities, has it actually worked in that way?"

"Mr. Storrs: I understand so, as to the condition of the inner area of the city. That is the only portion that is served, and, conversely, the fact that it is congested must be to a certain extent due to the fact that it is the only part served.

"Commissioner Sweet: Well, in reasoning on the subject, is not that the natural conclusion to come to?"

Mr. Storrs: Yes, sir. I have always drawn that conclusion.

"Commissioner Sweet: Then, in this regard, there seems to be a direct conflict of interests between the general community and the railway companies. It would be to the interest of the railway companies to adopt the system that prevails on the steam railroads, would it not, and that would be inherently just, would it not?"

"Mr. Storrs: It would seem to be inherently just and much more reasonable.

"Commissioner Sweet: And then the people would pay for just what they get?"

"Mr. Storrs: Yes.

"Commissioner Sweet: But in the interest of the proper distribution of the population and to prevent the congestion in the centers of population, the other system has been adopted throughout the United States?"

"Mr. Storrs: Yes, sir; the fundamental theory.

"Commissioner Sweet: And it has worked, as you no doubt would expect it to work, and has produced the distribution that has decided advantages from many standpoints?"

"Mr. Storrs: Yes, sir."

Here we have a rather frank admission by a witness for the companies, and an advocate of the zone system as a means of their financial salvation, that the American flat fare policy has been built up on a correct basis so far as social welfare is concerned. Mr. Storrs and several other witnesses, when questioned by Commissioner Gadsden, readily assented to the proposition that the electric railways thus far have carried a heavy burden of community development in this country. In substance these witnesses agreed that now it is time for the electric railways to "cut loose" and seek first their own salvation, leaving the community to solve its social problems by other means, or else subsidize the railways for the services they render in that connection. This brings out clearly the fact that street railway fares cannot be treated merely from the point of view of revenue production; their social implications and consequences must be given consideration. The witnesses who testified with respect to the zone fare system were pretty well agreed that such a system is more equitable as between the electric railway and its individual patrons than the uniform flat fare system can be. This strain of unanimity was based upon considerations with respect to the cost of the service and the value of the service to the individual car riders. The deeper we go into the subject, the more complex it gets, and the more certain we are that we have hit the fundamental issues underlying the whole local transportation problem. What were the street railways built for—to make money or to serve the community? What shall determine their fare policies—the financial exigencies of the operating corporations, or the public welfare? Local transportation facilities are a fundamental part of the city plan. Local transportation charges have, or may have, a determining influence upon the efficacy of the city plan in its practical working out. It is idle, and worse than idle, to attempt to

solve the fare problem merely from the point of view of street railway finance. That is one of the fundamental dangers in the present street railway situation. The companies, in their present financial distress, are turning to the zone system as a possible means of getting more revenue. The state commissions, feeling little or no responsibility for the social results of the policies they adopt, yield to the necessity of providing the companies with more revenue from the rates, and give great weight to the theoretical analysis of the cost of service and its scientific distribution among the various classes of car riders. To the extent that the municipalities have been eliminated from participation in rate adjustments, there is nobody left in the game to represent the urban community interest. What is most important is lost sight of; what is least important prevails. From the companies' point of view the question is: Does the zone system produce the revenues required? From the point of view of the regulating commissions, the question is: Does it produce the revenues by an equitable distribution of the cost of service among those who use the service? From the community's point of view, the question is: Does the zone plan produce the revenue without substantial injustice to the individuals who pay the fares, while at the same time contributing to the public welfare through the exertion of a proper influence upon the distribution of population and the total direct and indirect costs of transportation service?

Unfortunately, American experience with the zone fare is quite limited, and the testimony of the witnesses on this subject, though quite voluminous, is for the most part rather superficial. This is a case where even unanimity might not be convincing. But there is disagreement. To the question whether the zone plan will produce the revenues, Mr. Thomas N. McCarter, of the Public Service Railway Company would reply: "A thousand times, no!—At least not in New Jersey." On the other hand, Mr. Lucius S. Storrs would reply: "The results are very satisfying—at least in Connecticut." And Mr. Walter Jackson's reply would be: "The zone system produces the revenue in Great Britain and Australia—why not in America?" Meanwhile, the truth waits upon experience.

To the question as to whether the zone system provides for an equitable distribution of the cost of service, General Tripp, among others, answers, "Yes." His testimony on this point, at page 160 of the Proceedings, is as follows:

"Commissioner Sweet: Do you regard the present prevailing system of charging the same amount for short hauls and long hauls as just?"

"Gen. Tripp: No; I do not regard it as just.

"Commissioner Sweet: Is it good business?"

"Gen. Tripp: It is not good business.

"Commissioner Sweet: Well, how would you change it?"

"Gen. Tripp: Of course, the only change that I know about would be a zone system, such as is universally used almost all over England and the Continent.

"Commissioner Sweet: How is it working there?"

"Gen. Tripp: Working perfectly well.

"Commissioner Sweet: Will you describe that zone system, so we will understand more fully what it is?"

"Gen. Tripp: A zone system simply consists in certain zones. After you pass out of one zone into another, you pay an additional fare. The fare in England, in the shorter zone, is low. I just do not recall what it is, but it is less than five cents or its equivalent.

"Commissioner Sweet: Yes.

"Gen. Tripp: But it increases as you go out into the suburbs.

"Commissioner Sweet: Would not that necessitate a great deal of bother and annoyance that Americans would object to?"

"Gen. Tripp: That is the objection. It is not based on sound economics, and it is not just, but it is the custom in this country.

"Commissioner Sweet: You mean the present system?

"Gen. Tripp: Yes; the present system.

"Commissioner Sweet: But I am speaking of the zone system, and I am asking you whether Americans would not rather object to paying these small amounts as they pass from one zone into another?

"Gen. Tripp: Well, I don't know. They are becoming more or less educated to do it on interurban lines, and I have heard some cities have recently adopted it. I do not know how it is working. My impression has always been that they would object, but I have never known of its being tried in a large community, so I do not know that it has ever been proved that they would object.

"Commissioner Sweet: But you think that that is a just and a business way of handling it?

"Gen. Tripp: Yes, sir."

But here we have to make a distinction between the simple distance tariff as it is worked out in British cities and a modified zone fare schedule such as the plan originally proposed by the Public Service Railway Company of New Jersey, and later applied with considerable modification by the Connecticut Company. With respect to the British plan, the American Electric Railway Association's Committee on Zone Systems, in the portion of its report which I have already quoted, alleges that it is "most discriminatory in favor of the short-haul rider, because cost of service is admittedly not directly proportional to the distance traveled." The same point of view is taken, though somewhat more mildly, by Dr. Dugald C. Jackson. In his testimony, he quoted certain conclusions reached as a result of a special investigation made at the Massachusetts Institute of Technology a few years ago. One of these conclusions, which appear at page 1431 of the Proceedings, is as follows:

"To meet increasing cost of service and to properly prepare for extensions of existing systems, the street railways in the United States, both urban and suburban, will sooner or later be forced to adopt a system of rates based more nearly on the length of the haul. A mileage system of rates is probably not desirable in American cities."

Commenting upon the conclusions referred to, and particularly upon the one just quoted, Doctor Jackson says, at page 1432 of the Proceedings:

"The foregoing conclusions all point to the necessity of some zone plan of fares for our large cities. Where it is pointed out in the conclusions that a mileage system of rates is probably not desirable in American cities, it is the intention to urge the fact that transportation, like other branches of business, has a certain proportion of overhead cost which is reasonably independent of the bulk of the business, and that, therefore, the short-haul passengers may be expected to pay a larger per-passenger-mile apportionment than the long-haul passengers, and that the zone system should be laid out recognizing that fact. Zones which might have been based on a 3-cent fare under pre-war cost, would, today, call for a 5-cent or larger fare.

"Most of the street railways of the United States have wished to avert the introduction of zone fares, partially on account of the difficulty of adequate auditing of the fares collected. In the European cities where zone fares have been used for several decades, the plan has been usually founded upon a straight mileage charge without consideration of the stand-by charges, and measures for adequate auditing have not been introduced."

It may be admitted that theoretically the cost of street railway service is not directly proportional to the length of ride, but in my opinion there is very little basis, even from the point of view of scientific rate-making on the cost theory, for the assumption that a minimum charge, considerably in excess of the mileage, should be made for all passengers, no matter how short their rides may be. The subject is complex and difficult, but there is danger in trying to carry over into the street railway business from other utilities the theory of "readiness-to-serve" as a distinct element of cost entering a just rate chargeable to the individual con-

sumers irrespective of the actual amount of the service taken by them. In other utilities—water supply, gas, electric light and power and the telephone—the theoretical justification for a “readiness-to-serve” charge grows out of the fact that each consumer has a fixed physical connection between the premises he owns or occupies and the distribution system of the utility. The relation between the street railways and their patrons is quite different. The New Jersey idea of “soaking” a passenger for 3 or 4 cents as a “stand-by” charge every time he boards a car is almost grotesque as an application of a scientific theory of rates. It is as if the “readiness-to-serve” charge in water rates, for example, were to be applied every time a consumer goes to the faucet to get a drink; or in gas or electric rates, every time he turns on the light. That would not be a “stand-by,” but a “get-busy” charge. If the street railways are to levy a stand-by or ready-to-serve charge, they should tackle the man on the sidewalk or in the automobile or the woman that stays at home when she might use the street car to go shopping. It may be that a proper allocation of local transportation costs would involve the levying of a service tax upon property to which street car service is available, or the exaction of a sort of membership fee in the Car Riders Club from the fellows who ride only occasionally, but this is an entirely different matter from attempting to modify the distance tariff by imposing a disproportionate charge upon the short-haul rider. In my opinion the theory of a “stand-by” charge is not properly applicable to street railway rates unless it is applied to the infrequent or irregular rider as such, not to the short-haul rider as such. Theoretically, it would be entirely feasible to require every car rider to pay a “stand-by” charge of 50 cents or \$1.00 a month, or a certain larger amount every three months, every six months or every year. Under such a plan, nobody could ride unless he had paid his dues and could show his receipt, and then he would have to pay his regular fare based on the distance traveled. This suggestion seems quite fantastic, but it is eminently logical as compared with the schemes being devised by the electric railway companies to justify the adoption of a hybrid zone plan without the low fare for the short ride. In general, we may conclude that the straight distance tariff, supplemented by a scheme of stand-by charges for the potential or occasional riders, would satisfy to a reasonable extent the demands for scientific rate-making on the cost basis.

The third question, as to the effect of the zone fare upon the community as a whole, is still harder to answer. Secretary Baker expressed himself as in favor of the zone system, but admitted the important social benefits of the uniform flat fare. He finally justified his position by alleging that the zone fare by causing congestion would knock the bottom out of suburban real estate, and then the people who had rushed into the central district to avoid the higher car fares would rush back again to take advantage of the slump in suburban rents. At page 1025 of the Proceedings, Mr. Baker says:

“I have always believed in the zone plan of charge. I think that the payment that one makes to a street railroad company ought to be for the service rendered him, as near as it can be. I used to argue with Mr. Johnson about that and his objection to it was that you would have to have a bookkeeper for each passenger on the street car, which was an exaggerated but illustrative way of stating the difficulties. I do not see the slightest reason why we should not have on the street railroads in this country a zone system like the British use in their motor buses.”

Mr. Baker's discussion of the effect of the zone plan upon congestion comes a little farther on. At pages 1025 and 1026 of the Proceedings, in response to questions by Commissioner Sweet, he testifies as follows:

"Commissioner Sweet: In your discussion with Mayor Johnson of the zone system did either of you bring up the question of distribution of population?

"Secretary Baker: Very constantly. It was a thing we had in mind all the time.

"Commissioner Sweet: Don't you think the zone plan would work rather in favor of congestion and be objectionable on that ground, quite seriously?

"Secretary Baker: Yes, it kills the traffic on both sides of the zone line, it has that effect, and I think it does have the effect of congesting the people towards the cheaper haul.

"Commissioner Sweet: When you consider—

"Secretary Baker: But that accounts for itself very easily. What happens then is that the rent which the landlord gets at the end of the line falls; so it ultimately goes back to the land value after all.

"Commissioner Sweet: I understand that under the European system the higher charge in proportion to the longer trip has seriously tended towards congestion in the cities. Our system of charge, a nickel for almost any ride whatever on an electric railroad, urban or in the vicinity of a city, has had a tendency, I think, to build up the suburbs of cities to quite an unusual extent, more than in foreign cities.

"Secretary Baker: I think it has.

"Commissioner Sweet: And that would certainly seem to be in the interest of sanitation and perhaps good morals and the general benefit of the community, would it not?

"Secretary Baker: Yes, there are advantages on that side.

"Commissioner Sweet: I have wondered whether the advantages there were such that it would be better to make up a deficiency if necessary by general taxation and charge the low rate of fare to encourage people to build and own homes outside the cities.

"Secretary Baker: You may be interested to know that Mr. Johnson entertained your view so strongly that he regarded the ideal way of street railroad operation as entirely paid for by the taxpayers and all car riding free. He used to say there was no more reason why elevators should be operated free in buildings than that street railroads should be operated free. The same thing ought to apply. I do not agree with that."

Mr. Baker was in favor of retaining the 5-cent fare, even though it might prove necessary to shorten the one-fare zone. At page 1035 of the Proceedings, he says:

"I have never been able to get the difficulties of the zone system—I think if you start with the 5-cent fare, if that is the necessary fare, and you charge another cent for riding an additional mile beyond the profitable limit, it is perfectly unobjectionable.

"Commissioner Meeker: Do you think the effect upon congestion is negligible?

"Secretary Baker: Negligible.

"Commissioner Meeker: We have in our 5-cent fare zones the greatest congestion of population to be found in the world, in New York City.

"Secretary Baker: Yes. The immediate effect undoubtedly would be to cause people to move in the tenements in the cheap fare district. The next effect of it, however, is to decrease the rental value of outlying lands and then people find they can rent for as much less out there than they could downtown as the difference in the cost of the street railroad fare, so that the effect of it is to disperse the population.

"Commissioner Meeker: Does it not also have the effect of dispersing industry? That seems to be the experience in Europe.

"Secretary Baker: Yes, I think it does, although the European experience on that subject is unreliable because the habits of the two sets of people are different. Their laborers all live around their factories and workshops and ours never did."

Dr. Dugald C. Jackson expressed the opinion that there is nothing in the congestion argument against the zone system, and that the full cost of street railway service should be collected from the car riders. At pages 1433 and 1434 of the Proceedings, he says:

"Voice has been given to much well-meant but incorrect criticism of zone fares for American cities. This has generally been based upon an allegation that zone fares would increase the concentration of population in the cities. My study has satisfied me that these premises are erroneous, and the criticism incorrect. The family that has gone to the suburbs for the purpose of obtaining better living conditions, as a rule, is able to pay a slight increase of fare without overthrowing its margin of advantages. If such fares are not increased above

5 cents, provided the distance to the suburb is greater than the passenger can be carried for 5 cents, then the loss from carrying such passengers for 5 cents must be borne by others. If this loss is assumed by the state or by the city and the suburban villages, the suburban dwellers will ultimately pay more than the extra fare, on account of the increase of taxes, or from the apportioning of taxes in rent, and in the cost of the various articles of food and clothing purchased.

"In other words, when one pays for something indirectly, it ultimately costs him more than if he had paid for it directly. While he may not know that he is paying for what he got at less than cost, he actually is, and is paying more for it."

Mr. W. D. George, one of the receivers of the Pittsburgh Railways Company, was very emphatic in his contention that the zone plan tends to congestion. In discussing the new rates put into effect when the Pittsburgh zoning experiment was abandoned, Mr. George says, at pages 310 and 311 of the Proceedings:

"The new rate of fare which we have in effect is more of a flat fare than any fare that they have ever had there, in that we are giving now what they never had before—a crosstown transfer privilege. Ten cents will entitle a man to cross the downtown section, with a transfer—something which they never had before.

* * * * *

"We put that in operation in the attempt to afford that freedom of travel from one section of the town to the other, and we are getting away from this zone system of fares which, to my mind, works towards the congestion of population, and it has a tremendous effect.

"I want you gentlemen to consider what any discrimination of 2 cents in railroad fares will mean to a family of, say, four riders a day. To see what it would mean, I figured it out one day, as a real estate man, and I figured that a lot that was just inside of a zone that had a 5-cent fare was worth about \$30 a front foot more than the lot that was just outside of a 5-cent zone, in a 7-cent zone, to a man who had four daily riders on the street cars. He could afford actually, if he was buying a 30-foot lot, to pay \$30 a front foot more to get inside that zone. And don't you think they will get in? Why, they will get in, and the apartment houses will get in, and there will be a tendency towards congestion in these American cities which will approach the situation in Glasgow today, and if you have been familiar with the studies which have been made of housing conditions in Glasgow, they will cure you of any notion that street car companies should be built up for the purpose of raising revenue, and at the same time working against the proper distribution of the population of a city. If you will allow me to regulate rates in the city of Pittsburgh, I can move the population and create land values and destroy land values."

Again, at page 311 of the Proceedings, Mr. George says:

"I do not believe any city can afford to see a system of zone fares built up in it. I think it would be tremendously destructive to the right sort of development of the city. * * * Not only that, but it would be destructive of business locations which have been created on a flat system of fares."

It appears that the Indiana Public Service Commission has been somewhat unconventional of late, as it has not considered itself bound in all rate cases by purely financial considerations. This is indicated by the testimony of its secretary, Mr. Carl H. Mote, who discusses the zone plan at pages 1100 and 1101 of the Proceedings, as follows:

"Commissioner Sweet: Have you considered the possibility of going to the zone plan?"

"Mr. Mote: Yes. * * * * We have denied a petition asking for that.

"Commissioner Sweet: What is your objection to the zone plan?"

"Mr. Mote: Because of the tendency to cause congestion, the social objections to it. We do not have the same problems, I frankly recognize, like a city like New York or Boston or the larger cities have. There I would think the zoning system would be inescapable, but I do not think that it is true of our state, I do not think it applies to any of our cities.

"Commissioner Sweet: What is the population of Indianapolis?"

"Mr. Mote: 300,000.

"Commissioner Sweet: How many square miles does it cover about?"

"Mr. Mote: Well, roughly, 100.

"Commissioner Sweet: Were it not for the objection that you speak of, the tendency to congestion, would you favor the zone system in Indianapolis?"

"Mr. Mote: There is one other reason, and that is that people have built their homes

in the suburbs upon the theory that they are going to be able to ride downtown as cheaply by living in the suburbs as if they lived down at 10th street or 11th street or down near town, and I should think the moral effects of a change to the zone system would be bad in our city."

Lieutenant Colonel Charles W. Kutz, Chairman of the Public Utilities Commission of the District of Columbia, where two rival street railway companies operate, explains at pages 1039 and 1040 of the Proceedings the reasons why the zone system was not adopted in Washington. He says:

"Then the suggestion was that we adopt a zone system, which would also have an equalizing effect in this particular case, because of the ten suburban lines of the one company as against the two of the other. But when the zone system was suggested some months ago, very great opposition was voiced to it.

"The District of Columbia is somewhat different from the average city in the country in that its boundaries were fixed a great many years ago, and probably will remain unchanged for a great many years. In other words, it is not an expanding community, from a territorial standpoint.

"Of course, all property values within the District have for many years been based on this flat rate for street car fare, and of course we distribute electric light to all parts of the city on the same rate and we distribute gas to all parts of the city on the same rate, and yet we know it costs more to deliver gas ten miles than it does to deliver gas one mile. Also, sociologically, we think there are a great many advantages in a flat rate of fare within the District of Columbia.

* * * * *

"The evidence seems to indicate that a zone system in the District would be very unpopular, and I believe if submitted to a referendum of the people, their preference would be expressed for a flat rate of fare rather than the zone fare.

"I might say that the charge for transfers is not a popular charge in the community. Many people, individually and collectively, have expressed the opinion that an increase in the flat rate of fare would better satisfy the public than a charge for transfers."

Mr. Walter Jackson was the best qualified witness before the Commission so far as zoning is concerned, as he had spent several months in Great Britain and Ireland making an intensive study of the zone methods in use there, besides being familiar through many years of personal observation with the conditions prevailing on the electric railways of this country. He advocated the introduction of one-man safety cars as "by all odds the surest road to decreased costs and increased revenue," but referred to the zone system as "a second way of more limited application." His discussion of the zone fare system appears at pages 1600 to 1608 of the Proceedings. Two of his general conclusions are given at pages 1601 and 1602, as follows:

"The first thing that I gathered from these studies was that the true zone fare inevitably brings out a large proportion of people who ride one mile or less; and this has been found to apply under a great variety of topographical, density and other conditions ranging from the tenement house condition of Glasgow through the small-house cities of England to the more scattered construction of the newer cities of Australia. This indicates clearly that the minimum fare must be one that will attract the walker. In Great Britain this minimum fare is usually one penny; in Australia with conditions closer to our own, it is more likely to be 1½ pence or three cents for an initial zone up to 1½ miles or so.

"If any American city of reasonably compact population can show only ten to twenty per cent of its riders within a one-mile ride, it is obvious that it could do something with a lower fare for the shorter distance. It would be unwise to specify any particular scale of fares for universal application. In many towns, there might be but few situations where the additional revenue from a differential fare system would make the extra cost and complication worth while. I would always wish first to exhaust the technical resources of the art. Ideal places for the zone fare, beginning with a rate to attract present walkers, are such cities as Boston, Providence, New York, Philadelphia, thereby making the street railway of maximum value to the public. I just mention those to be specific. Cities that are not of that type are San Diego and East St. Louis.

"The second thing gathered from studies of the zone fare was that there is little or no connection between the zone fare and congestion. Zone fares are found in almost every kind of community. The character of housing often appears to be a national characteristic, as the

tenements of French cities and the individual homes of English ones. Furthermore, the expansion of American cities has been promoted largely by the ease of securing land, there being no century-old estates to interfere. Where a city has had a zone fare from the beginning, it must be obvious that the higher fare on the outskirts is offset in some measure by the lower cost of land. In the United States, contrariwise, the realty man has fattened upon the expansion of the electric railways far beyond the true needs of the community. The municipality itself, as Dr. Whitten has pointed out, has also been paying a bonus to the realty operator in overrapid extensions of its streets, water system and other utilities. In any event, it is noticeable that under a correct zone system the fare is not absolutely cumulative, so that the further a man lives away from the center, the less his fare per mile. For example, Australian roads make a concession to the suburbanite just as the companies and the municipal tramways of London do."

His further conclusions are found at pages 1607 and 1608, where he says:

"The third thing gathered from studying the zone fare in practice was the uselessness of comparing track mileage to population for the purpose of comparing the zone fare versus the universal fare. The older European cities show a comparatively small amount of tracks to population, whether they have flat fares or zone fares. The new American cities and new Australian cities show liberal trackage, although the Americans have flat fares and the Australians have zone fares. All in all, it is true that European cities have too little track, whereas American cities certainly have too much, because formerly competitive railways still have their tracks in place although they have long been consolidated. A reduction in track mileage would be a healthful blood-letting for many American cities. I may add that while British cities have so little track in proportion to population, it does not appear that their operators feel the need for much more. The tendency is to serve the suburbs first with buses or trackless trolleys and to refrain from putting down costly track until the population is dense enough to pay for, say, a 10-minute headway. This is common sense. In other words, instead of having that development out in East St. Louis with its very costly track construction, running out for miles and miles, because there was too much optimism or too much pressure from realty developers, you would put down as the Englishman does two or three buses and say: 'We will give a bus service every 30 minutes and if the population out here grows we will put on some more buses and by and by we will put on a trackless trolley or perhaps put down a track when we know it is there. We are not going to take a chance on building something that is going to be a dead dog on our hands afterwards.'

"The fourth thing to be gathered from a close study of British practice is that the success of the zone fare depends as much upon close headways as upon a short fare for a short ride. It is obvious that people will not wait ten to fifteen minutes in order to ride one-fourth of a mile to a mile. In Glasgow, where the minimum fare zone is 1.10 miles, fully 62 per cent of the passengers rode within that distance last year, and it is a long city, along a river valley; and it must be clear that they would not have done so much short riding if the car service had been infrequent. It does not follow, of course, that the cars themselves are as good as our own in comfort and upholstery. Generally they are not, although the provision of cross seats on the upper decks and permission to smoke there are much appreciated. Jitney experience in this country indicates that people tend to take the first vehicle that offers, a shabby auto being often preferred to a finely upholstered car because the jitney is there and the car is not.

"The fifth thing to be gathered from a study of zone fare systems was that they are not to be judged in connection with the wages paid to the carmen unless we were to use the same scale of fares. As a matter of fact, the British carman today is earning pre-war American wages, has an eight-hour day and gets certain privileges like payment for reporting time, uniforms free and vacations that make the platform cost just as dominant as here. On this new basis most fares are still one penny or two cents minimum. On the other hand, the zone fare in Australia has been applied for years on railways which are paying American wages. No matter what the wages are, a zone system can be worked out on the plan of maximum revenue from maximum riders as against the plan of 8, 9 and 10-cent fares for all who can be compelled to pay them."

It cannot be doubted that the uniform flat fare policy has been carried to unreasonable limits on some American street railway systems. In some cases, it may even be argued that this policy has spread the urban population out too much, and caused a scattered and unsymmetrical development which is expensive from the community standpoint without doing anybody except certain realty people any more good than would have come from a more moderate distribution of the people. In such cases the uniform fare area can properly be curtailed. On interurban lines, a distance tariff is obviously proper. Possibly on some urban

systems a modified zone plan may be adopted with advantage to the street railway and to the community at large. But it is clearly intolerable that our American uniform flat fare policy should be swept away and a zone system substituted for it merely as an expedient for getting more revenue out of street railway service, without first getting the advice in each particular case of the municipal authorities who are responsible for the city plan. It would be quite unsafe for the electric railways to look to a distance tariff, whether it be a thoroughbred with a British pedigree or a mere American scrub, to pull them out of the slough into which they have fallen.

CHAPTER XXX

RELIEF FROM TAXATION AND OTHER PUBLIC BURDENS

I have already discussed, in Chapter XVI of this report, the extent of the tax burdens levied upon the electric railway industry and of the franchise obligations requiring the electric railways to make special contributions to the cost of government. A great deal of testimony was taken by the Commission with respect to the possibility of procuring for the electric railways a substantial amount of relief through the abrogation of special taxes, paving obligations, etc. This general subject was attacked along several different lines. Special franchise taxes, when coupled with general property taxes, were denounced as a form of double taxation quite inconsistent with the theory of "equal taxation" advocated by Professor Bullock. In the second place, street railway paving charges were attacked on the theory that they are a "relic of horse car days" and no longer appropriate, and also on the theory that the street railway paving tax represents a discrimination in favor of the automobiles. In the third place, some of the witnesses advocated the temporary or permanent exemption of the street railways from all taxation as an alternative preferable to fare increases; but this policy was strongly combatted by other witnesses. A great deal of emphasis was laid upon the theory that taxes, paving obligations and other special burdens placed upon the street railways are in fact elements in the cost of service which are automatically transferred to the car riders; but on the contrary it was pointed out by some of the witnesses that special forms of taxation were developed as a means of compelling the street railway companies to share their profits with the public during the period when the companies were believed to be making exorbitant profits out of the fixed 5-cent fare.

This subject of "relief" from taxation and franchise obligations having to do with the occupation of the public streets by electric railway tracks and other fixtures is an extremely complicated one. The policy that should be followed depends upon the accepted status of the electric railway as a means of rendering public service. In the *Annals of the American Academy of Political and Social Science* for March, 1915, I discussed "Taxation of Public Utilities." This was just after the World War broke out, but two years before the United States got into it. At the time, business in general was rather stagnant in this country, and this condition was reflected in relatively low street railway earnings. Prices were still normal, but the growth of traffic had been temporarily checked. It was shortly after the first national utilities conference had been held in Philadelphia, and the whole subject of the public relations of public utilities was unsettled. In the article referred to, I said:

"If a public utility is to be regarded as a private enterprise, operated primarily for profit, subject to the ordinary restrictions imposed upon other profit-seeking enterprises, no objection can be raised to the levying of taxes upon its property or earnings in the same way that

similar taxes are to be levied on the property or earnings of other private undertakings. On the other hand, if public utilities are to be regarded as agencies of the state or the municipality, performing strictly public services under stringent public regulation, the levying of taxes upon their property or earnings is quite another matter. At this moment the relations between public utilities and governmental bodies are in a transition stage, and, therefore, it is not easy to formulate a rule in regard to the taxation of utilities that will be universally recognized as correct in theory or practice. In my judgment, however, we can assume that the patent and inevitable tendency in the development of the relations between the utilities and the public is toward the recognition and full establishment of the agency theory.

* * * * *

"Even if we assume the ultimate establishment of the public agency theory in universal practice, we shall still have to consider just what that means. When we escape from the theory that public utilities are luxuries operated for profit, we start off on a long road with many possible stopping places. Many public services are even now rendered free to those who have need of them. While it is a rather far cry from the assertion that public utilities should not be operated for profit to the prophecy that some time they will be operated entirely at the expense of the general taxpayers, the road from one point to the other in public policy is a direct one. At the present time, it is customary to say that public utilities ought not to be operated for profit, but that they should be treated as self-sustaining business enterprises rendering their services at cost. Yet, in practice, while the rearguard of the utilities lingers in the realm of profitable exploitation, the vanguard has reached beyond the neutral area into the field of governmental subsidy. Indeed, it requires careful analysis to determine just what it takes to make a utility fully self-sustaining. For example, while the writer has strongly opposed any system of profit-making or special taxation that would result in taking a portion of the earnings of the utility out of the business, he has with equal urgency favored a plan by which public utilities should be made to pay for themselves out of earnings. In other words, according to his definition, a public utility is fully self-sustaining only in case its earnings are sufficient to pay operating expenses, interest on investment and also amortization charges. This definition has a leaning toward conservatism. It is based upon the theory that the capital invested in a public utility should be retired within a reasonable time, partly because the physical property may become obsolete and partly because a utility that has paid for itself will be in a better position to render increased service at reduced cost, in accordance with the inevitable trend of public need as time goes on.

* * * * *

"We may mark several stages in public utility development as follows:

"1. Public utilities operated for profit and, in case of private ownership, accompanied by various forms of taxation and partnership intended to give the public a share in the profits.

"2. Public utilities operated at cost, including in cost ordinary taxes and interest, and amortization charges sufficient to retire the investment within a reasonable fixed period.

"3. Public utilities operated at cost, including in cost ordinary taxes and interest charges, but no amortization.

"4. Public utilities operated at cost, including in cost interest charges, but excluding both amortization charges and general taxes.

"5. Public utilities operated at cost, with the help of subsidies from taxation to take care of interest charges.

"6. Public utilities operated according to a fixed standard of rates and service, with deficits in operating expenses made up out of taxation.

"7. Public utilities operated at the expense of the taxpayers, all service being rendered free of charge.

"The public agency theory is controlling in all of the stages just enumerated except the first. This first stage may be regarded as a 'left-over.' It is a relic of the past. At the same time, some individual utilities are so surrounded by tradition and so fortified by contracts and judicial decisions that no one can foresee how long they may linger in this first stage. So far and so long as public utilities continue to be operated on a speculative basis in accordance with the ancient traditions, taxation may be regarded as a legitimate means of securing public revenue and also as an instrument for shrinking the values of special privileges that have slipped out of public control in past years through the improvidence or corruption of public officials. Taxation should certainly be regarded as one of the most effective weapons the state has for subduing the pride and independence of the perpetual franchise barons. Relief from various forms of taxation may be used properly and effectively as a means of inducing public utility franchise holders to accept a readjustment of their contractual rights with the public, wherever such a readjustment seems to be of vital public necessity."

With respect to the taxation of public utility real estate, special franchise values, personal property and corporate franchises, I said:

"One of the chief points at which the agency theory has been limited by the trend of court decisions is in the matter of the value of land upon which public service corporations

are entitled to a fair return. As the law now stands, the private owners of a public utility are entitled to the benefit of the increment in land values. One of the tax reform programs that is receiving wide support calls for the gradual increase of the tax on land values and the gradual elimination of other taxes. This policy, if carried through to the final limit, would have the effect of taking away all or most of the selling value of land, and would therefore deprive public utility owners, by means of taxation, of the increment in land value in just the same way as it would deprive other land owners of such increment. If the gradual stiffening of the land tax is to be adopted as a permanent public policy, there certainly is no reason why the private owners of public utilities should be exempted from its effects. Therefore, it becomes important to consider just what is the effect of the taxation of land devoted to public use in connection with a public utility. Under monopoly conditions, if the rate charged for the service is a fixed sum, such as the 5-cent street car fare, it is obvious that the exemption of public utility land from taxation would redound to the benefit of the owners of the public utility and not to its patrons. If, instead of a predetermined, fixed rate for the service, a corporation is permitted to charge 'all the traffic will bear,' then, also, the exemption of the company's land from taxation would result in a direct benefit to the owners rather than to the patrons of the utility. If, however, the utility is subject to continuing regulation, on the theory that it will be allowed to earn a fair return upon a fair present value of the property and no more, then the exemption from taxation of land occupied by the utility would result in a reduction of rates or an improvement of service, and in either case would redound to the benefit of the utility's patrons, and would not confer any particular advantages upon the owners of the utility. This result follows from the fact that under the system of continuous regulation all taxes are made a part of operating expenses. Therefore, it would appear that in so far as public utilities are to be subject to constant and effective regulation in the matter of rates and charges, the correct policy would be to exempt their lands from taxation, on the same theory that any other lands devoted to public use are so exempted. The fact that the owners of the utilities are considered to be entitled to the increment in land values has no bearing upon the subject, for the taxation or exemption of the particular lands owned by the public utilities would, under conditions of perfect regulation, be a matter of interest to the consumers on the one hand and the general taxpayers on the other, but not to the owners of the utility as such.

"What has just been said in regard to the land tax applies with equal force to the special franchise or easement tax so far as this tax applies to intangibles. The special franchise tax of New York, however, defines the intangible right to use the street as land, and the tracks, poles, wires, pipes and other fixtures in the street as improvements upon land, analogous to the buildings on land not situated within street limits. The taxation of buildings and street fixtures devoted to public use by a public utility has all of the disadvantages of the taxation of improvements generally, except that in cases where the utility is not subject to continuous public regulation as to rates the taxation of these portions of the company's property cannot be shifted to the shoulders of the consumers. It would seem, therefore, that the special franchise tax, as applied either to intangibles or to tangibles, is of no value as a restrictive measure except in the case of public utilities which are not subject to public regulation or which have their rates established by contract. Under all other circumstances, the tax upon public utility real estate, whether in the streets or not, is to be considered merely as a revenue measure. If the occupation of land and the use of buildings and other improvements upon land are considered as a part of the legitimate cost of a self-sustaining business, then public utilities may be required to contribute their share to the public treasury to the same extent that other occupiers of land and buildings are required to contribute. Exemption from ordinary real estate taxes will gradually be brought about as public utility services come to be recognized as more and more public in character.

"The personal property tax, the corporate franchise tax, and the tax on gross or net earnings, as applied to public utilities, are to be regarded as relics of the time when public service corporations, in spite of their name, were not regarded as agencies performing public functions. These kinds of taxes cannot be justified except as they apply to public utilities still lingering in the speculative profit-seeking stage. To the extent that privately owned utilities are brought under effective public regulation, these taxes become as illogical as they would be if applied to municipal water works, docks, markets and lighting plants."

Passing on to the group of taxes and public charges which represent legitimate items of operating cost, I continued:

"This group includes the obligation to pave and repair streets (or in lieu thereof the paving commutation tax), sprinkling and snow removal charges, license fees, pole taxes, bridge tolls, and so forth. The theory of these taxes and charges is either that the public utility has the special use of certain public property to the disadvantage of other users and should therefore be required to pay an equalizing tax or rental, or that in the course of its operations a public utility actually destroys portions of the street which it ought to replace, or compels the general municipal authorities to incur expenses which the utility ought to stand. In so far as it can be shown that the presence of street railway tracks in a street

destroys the pavement or requires the widening of the roadway for the accommodation of general traffic, the additional costs involved may properly be charged to the street railway if that utility is to be self-sustaining. In like manner, as the operation of cars increases the dust nuisance, a part of the cost of oiling or sprinkling the streets may properly be charged to the street railway. The same reasoning applies to the removal of snow and ice. Furthermore, in all cases, the street railway or other utility should be charged with the actual damages to persons or property caused by the construction or operation of the utility in the streets. The erection of poles and wires naturally interferes with and damages to a certain extent the shade trees along the streets, and the laying of conduits or water or gas pipes may also damage trees and injure pavements. Whether these various extra expenses and costs shall be paid directly by the utility, or whether they shall be paid in the form of commutation taxes, is immaterial to this discussion. In either case, they form a legitimate part of the operating expenses and cost of service of the utility. What forms they shall take is a question of public expediency and public policy in each state or city."

My general conclusions five years ago were couched in the following terms:

"1. In so far as public utilities remain on a speculative basis, and continue in the enjoyment of special privileges protected by judicial decisions and contractual rights, taxation may be resorted to both as a revenue measure and as a weapon for regaining public control over such utilities.

"2. In so far as privately owned public utilities are subject to adequate continuous public regulation as to service and rates, the principles of taxation as applied to them should be the same as the principles of taxation and profit-making applied to publicly owned utilities.

"3. Whatever revenue public bodies may derive from public utility taxes or contributions, except to the extent that such taxes and contributions may be regarded as a part of the actual and legitimate cost of service, should be used as a fund for amortizing, first, franchise and other intangible values and, second, the capital investment in the physical property of the utilities.

"4. As the public agency theory of public utility operation comes to be more widely recognized and more fully established, the tendency will undoubtedly be to diminish and finally eliminate public utility taxes and contributions and, *per contra*, to subsidize public utilities out of taxation to the end that a higher standard of service may be rendered at a fixed or diminishing charge to the public."

The exigencies finally created by the World War, to my mind, have emphasized what was already obvious to close observers before the war started, and have brought matters to a crisis that demands the immediate formulation of public policy with respect to the regulation of electric railways and the imposition of taxes and other public burdens upon them. With reference to the testimony before the Commission, the subject may be discussed under several heads: (1) the theory of equal taxation; (2) the effect of taxes upon the fares paid by the car riders; (3) the extent to which paving and miscellaneous charges are legitimate operating expenses; and (4) exemption from taxation as a temporary emergency measure.

In Chapter XVI, I quoted Professor Bullock at some length, where he advocates equal taxation, and analyzes various forms of street railway taxes and imposts from that point of view. Upon the general theory that street railways should be taxed the same as "anybody else," Ex-President Taft's testimony at pages 19 and 20 of the Proceedings undoubtedly represents the general trend of intelligent but conservative public opinion on this subject. He says:

"I never have been able to see why street railway companies should be taxed by any other rule than that under which other invested capital is taxed. You can tax them by income, you can tax them by a percentage of the amount invested. Those are the two methods: and I think that simplifies the methods.

"What you are going to find, if you have this percentage tax, is that the value of the street railways will be taxed at a higher rate, I mean the property of the street railways will be taxed at a higher assessment than the real estate of the ordinary taxpayer; and perhaps, therefore, it is a fairer method to tax by income. I suppose you could not tax by income only. You would have to have both systems of taxation.

"Commissioner Wehle: Your thought on this subject has suggested to me that possibly,

in view of the fact that you regard the street railway service as, in a way, similar to the service of conducting a public road—

"Mr. Taft: I only mention that as an argument in favor of taxation to meet the deficit, if it be inevitable, of running suitable street railways.

"Commissioner Wehle: The thought was suggested to me that possibly you would view any tax that goes beyond the necessity of meeting the expense of the state with reference to the property itself as poor public policy. Is that your view?

"Mr. Taft: Well, no; because I think those who get any profit out of it ought to pay the same taxation that men who make a profit out of other business pay.

"Commissioner Wehle: When you come to analyze the nickel or the 7 cents that goes into the conductor's hands, and see what it pays for, does it seem to you that the element of taxation that is represented in that fare should go beyond paying for the conducting of the property itself, as it affects the state or the municipality?

"Mr. Taft: I confess that if a man owns stock in a street railway and the stock pays him, I do not see why he should not pay taxes on that income, or on the value of the stock, just as if he had an investment anywhere else.

"Commissioner Wehle: That suggests taxing the stock or the income, rather than the property itself?

"Mr. Taft: Yes, it does; and I think the greater uniformity you make in taxation the more likely you are to reach justice, and therefore if you treat shares of stock in street railways just as you do shares of stock in a manufacturing corporation, or in any kind of an enterprise, I think you are more likely to do justice; and you create a simplicity which is more likely to lead to justice or a just operation.

"Commissioner Wehle: That is, by making the taxation come upon the shareholder or the bondholder, who obtains income out of the property, rather than on the property or the franchise itself, you would think was the direction in which to go in the matter of taxing public utilities.

"Mr. Taft: You are there confronted with a lot of questions of expediency in taxation—the ability to find the bonds and tax them, or the inability to find the bonds and tax them, is one thing. You have got the railroad right in front of you. You have the wires, you have the electric power plant, and with some experience in levying taxes, I do not think that clearness of view that the state has of the actual property ought to be given up as an advantage. I think it ought to be reconciled, as it seems to me it might be, with treating that property just as you treat any property in corporate ownership. * * * *"

General Tripp and Doctor Conway, testifying on behalf of the American Electric Railway Association, both expressed the opinion that exemption from tax burdens and special franchise obligations would not alone afford the electric railways sufficient relief in the present crisis. At page 157 of the Proceedings, General Tripp, on cross examination by Commissioner Sweet, reaffirmed his belief that the elimination of taxes, direct and indirect, would not afford "a proper and perpetual solution" of the problem. At pages 160 and 161, his testimony with respect to property and franchise taxes is as follows:

"Commissioner Sweet: How about general taxes? Do you think that the street railway companies ought to be taxed on their physical property?

"Gen. Tripp: Under the present theory of relationships, there is no reason why they should not be taxed.

"Commissioner Sweet: Is there any consideration, do you think, which should be taken of the value of their franchises?

"Gen. Tripp: For purposes of taxation?

"Commissioner Sweet: Yes.

"Gen. Tripp: No, sir.

"Commissioner Sweet: Merely the physical properties?

"Gen. Tripp: Yes, sir.

"Commissioner Sweet: That should be assessed on the same general basis as other properties owned by private individuals?

"Gen. Tripp: Yes, sir.

"Commissioner Gadsden: General, on the present basis, do you think the present franchises have any value on which to base taxation?

"Gen. Tripp: No, sir.

"Commissioner Sweet: They are rather negative, are they not?

"Gen. Tripp: Precisely. They are decidedly negative."

The question of the effect of street railway taxes and paving obligations on fares raises several points of interest. Many of the witnesses discussed these

items of street railway cost as being merely indirect burdens on the car riders. Whether or not they are such depends on whether or not the companies are in a position to pass them along to the public. It is the same as it is with wages or other items of operating expense or of cost of capital. If there is a perfect adjustment of fares to the cost of service, either through unrestricted and continuous regulation, or through an automatic adjustment brought about under service-at-cost contracts, the entire tax burden falls upon the car riders, and the amount of taxes and other imposts levied upon the street railways is a matter of relative indifference to the companies. On the other hand, so long as fares are directly fixed by contract or custom, or so long as regulation is incomplete or not quickly responsive to changes in the cost of service, any increase in taxes or other public charges will fall, at least in part and for the time being, upon the companies. It is to be presumed that in the long run fares will be adjusted to take all these costs into account, except to the extent that public policy calls upon the taxpayers for a share of the cost of transportation service. From the point of view of the companies, the adoption of a service-at-cost program solves the tax problem except to the extent that the inclusion of taxes in the cost of service tends to make it doubtful whether the full cost can be collected from the fare payers. Professor Bullock, in one of the paragraphs already quoted from his testimony, suggests that "before you reduce the ordinary taxes levied on property, you should raise your fares to the maximum point that is practicable, looking at the matter from the revenue result." It is reasonably clear from the evidence that in the larger cities Professor Bullock's suggestion of "charging all the traffic will bear" before reducing ordinary taxes, if carried through relentlessly, will yield enough revenue to pay the taxes, certainly where jitney competition has been closely curtailed or eliminated. Apparently, Mr. Newman was filled with optimism along these lines when he testified that service-at-cost was a big enough program, without getting it complicated by an insistence upon relief from taxation. After admitting to Commissioner Sweet that taxation and paving obligations had imposed a "tremendous" burden upon the companies, Mr. Newman's testimony, at pages 571 and 572 of the Proceedings, proceeds as follows:

"Commissioner Sweet: And what is your view with regard to the future of those burdens? Should they be removed under the service-at-cost plan? Do you think it would be wise and the proper thing from every standpoint for the general public to relinquish voluntarily whatever advantage it might have obtained by reason of such paving and taxation?"

"Mr. Newman: I would answer that in this way: The idea of service-at-cost based upon a valuation is such a tremendous question in itself that when you attempt to complicate that with these other questions you will be getting nothing accomplished. Now I prefer not to bring up the question of taxes and of paving and to let that go along as part of the future obligations of the company, because it makes no difference whether you do the paving or the city does the paving, provided you are getting a return on your investment and provided the public will pay the increased fare to justify that investment. That is almost mathematics, is it not?"

"Commissioner Sweet: Yes. The result, however, would be more certain, would it not, and more satisfactory to investors if the burdens that I have been speaking of were removed so that the total amount necessary to earn would be less? That would mean that the fares would be somewhat less, would it not?"

"Mr. Newman: Yes.

"Commissioner Sweet: And with a lower fare you are more certain to hold up your patronage and the whole thing would move more smoothly, would it not?"

"Mr. Newman: Yes, but I am afraid if we tried to be too much hog we might not get anything.

"Commissioner Sweet: You do not think there would be any hog about demanding or trying to get absolute justice, do you?"

"Mr. Newman: Not at all, but when you remove the paying and taxes you are throwing a burden back on the people that has been on the street railroads and then asking them to pay increased fares, and I think you are complicating the question so you cannot present it in a concise and clear manner and cannot get relief. I am afraid to tackle too many phases of this problem. It is unfair in the light of today's operations to pay for paving because we all know the city paves every street with rails on before any others are paved, and in New Orleans we pay more taxes than the steam railroads together, and the same is true in Birmingham. Now if you cut off those big taxes you are transferring your troubles back to the administration. In the City of New Orleans they cannot do without these street railroad taxes. In the City of Birmingham they cannot do without these street railroad taxes. And that is where this thing is going to come back home to the city, they are going to choke these companies to the point of receivership and poor service and then the companies are in shape to go into court and contest the taxable value and get a reduction on this franchise tax, and that is going to be a boomerang to the cities who cannot afford to cut off this tax. I do not believe in complicating the question with this tax problem and the paving problem and starting more antagonism to the street railroads, because I believe we can get a fare which will return us a fair rate on our investment and at the same time take care of the paving and the taxes without having to go back to the city and complicate the problem further."

Mr. Luther R. Nash, of the Stone and Webster organization, testified at length about service-at-cost franchises. His testimony as to the policy embodied in these franchises with respect to franchise taxes is found at page 470 of the Proceedings, as follows:

"Mr. Warren: What do these franchises provide, if there is any usual provision in them, with respect to franchise taxes and what in your opinion should be the provision regarding franchise taxes?"

"Mr. Nash: There are only two or three of the dozen, approximately, that I recall that provide specifically for a tax which could be called a franchise tax or a rental. In fact the only two that I recall at the moment are Montreal and Cincinnati, in which substantial sums are provided to be paid annually as a price for doing business on the city streets. In both those cases the percentage of the gross earnings, if I remember rightly, is in excess of four or five per cent; in one case it is considerably higher than that.

"I do not at all approve of that kind of a tax. Theoretically a tax on a franchise ought to be a tax on the right to earn a profit in excess of that which investors could earn in ordinary industrial or commercial enterprises. Under a service-at-cost plan there is no excess profit. The profit is just the bare amount which theoretically the investor could earn somewhere else. So that the opportunity for rendering a public service has no special value on which a tax should be levied. So that I think taxation of public utilities should be limited to the ordinary *ad valorem* taxes which are paid by other industrial and commercial industries, plus also such license fees as are paid by other kinds of business; in other words, the same kind of taxes which other industries pay and no more.

"Mr. Warren: In other words, I suppose the effect of the franchise tax, if it is levied, is to add just that much more to the cost of service to the car rider.

"Mr. Nash: Yes, it is passed along directly to the car rider, which means that amount of taxes is paid by a certain group of citizens instead of being distributed uniformly over the entire list of tax payers, as it should be."

Mr. W. C. Culkins, at that time Director of Street Railroads of Cincinnati, explained that the franchise tax under the new service-at-cost franchise there is fixed at the flat yearly sum of \$350,000. His explanation of this payment, and of the attitude of the people of Cincinnati towards it, is found at page 497 of the Proceedings, as follows:

"That is supposed to take the place of the paving obligations. They are not required to pave. That goes into the public service fund.

"The Chairman: If you excluded the franchise tax from the operating cost, you would be able to reduce your fare?"

"Mr. Culkins: We would not be able to reduce it, but we would be able to hold it where it is, without any question.

"The Chairman: Has any consideration been given to that subject?"

"Mr. Culkins: Well, there was discussion at the time the franchise was issued, but it was not seriously discussed, because it has been there so long that no power could have

convinced the people of Cincinnati that to remove that tax would not have been taking the money out of their pockets and presenting it to the traction company. The city's financial system was built around it. We have the present limitation of taxes in Ohio, and the cities are all bankrupt. The taking away of \$350,000 was a matter that the council would not have agreed to in any event.

"Commissioner Sweet: If they had the option of paying 7 cents for a ride, or simply paying this \$350,000 in the form of a general tax, which would be more satisfactory?"

"Mr. Culkins: I think, Mr. Chairman, that the car riders, if you ever get them up to it, would begin to then understand it for the first time. Of course, there is no option in it. It is a part of the ordinance now."

In the Montreal service-at-cost franchise, referred to by Mr. Nash, the annual franchise tax or street rental payment is the flat sum of \$500,000. Prior to 1918, this payment to the city took the form of a graduated tax upon the Montreal Tramways Company's gross receipts. When the Montreal contract was being drafted, the attention of the Tramways Commission was called to the fact that this annual payment to the city would be reflected in higher fares, but the chief city attorney, who was a member of the Commission, said that the city regarded this item in the nature of a reimbursement for municipal expenses caused by the presence of the electric railway tracks and equipment in the streets. This Montreal payment, however, is not in lieu of paving obligations.

A good deal was said by the witnesses about the exemptions enjoyed by the Cleveland Railway Company under the Taylor franchise, and this is often referred to by street railway men as one of the explanations of the low fares in Cleveland. There seems to be considerable misapprehension about the extent and significance of these exemptions. Mr. John J. Stanley, President of the Cleveland Railway Company, referred to this matter at page 606 of the Proceedings, as follows:

"You know, the city of Cleveland does a great many things for the railway. We operate over eight bridges. One of those bridges cost \$5,000,000. Now, we do not pay a cent for rental in going over that bridge, and at each end of the bridge they have subways, and, as I say, that one particular bridge cost \$5,000,000. Now, we do not have to repave."

Mr. Stanley then called attention to the fact that many of the extensions built during the past five or six years have been paid for by real estate men. In regard to street sprinkling in Cleveland, Mr. Stanley said, at page 607 of the Proceedings:

"At one time, we sprinkled the streets at a cost of thirty or forty thousand dollars. Then, the city saw it was a burden to the car riders, and they said, 'Now, you flush the streets for us, and we will pay you for flushing them.' So they relieved us of sprinkling. We flushed the streets, and we are getting out of that anywhere from fifteen to twenty thousand dollars a year."

Secretary of War Baker, formerly City Attorney and later Mayor of Cleveland, explained the matter of the Cleveland Railway's taxes and paving obligations in some detail. At pages 1019 and 1020 of the Proceedings, he testified as follows:

"Commissioner Sweet: The street railroads of Cleveland are taxed?"

"Secretary Baker: Yes."

"Commissioner Sweet: They pay regular city and county and municipal taxes upon their physical property?"

"Secretary Baker: Yes."

"Commissioner Sweet: Is the franchise taxed?"

"Secretary Baker: No."

"Commissioner Sweet: Is the income taxed?"

"Secretary Baker: No. It may be under Federal law, but not local."

"Commissioner Sweet: Are they required to do paving between the tracks and for a short distance outside?"

"Secretary Baker: They are required on all new paving, that is, on all streets not previously paved, where they make extensions, or in a street in which they have tracks which has not been previously paved, they are required to pave between the rails on each track and the strip outside and are required to keep up the pavement and they make any repairs; but in the case of repaving they are not required to pay the cost of repaving."

In connection with the Cleveland situation attention should be called to the fact that although the company does not have to repave, it is required to lay the pavement originally and is also required to maintain it. Therefore, the original cost of paving is found in the capital account, and paving repairs appear in the maintenance expenses. In fact, the company spent during 1918 no less than \$274,694.49 for paving maintenance, as compared, for example, with \$151,541.35 spent by the Public Service Railway Company of New Jersey in the same period. On the other hand, the Cleveland company spent only \$45,828.36 for cleaning and sanding track and \$12,184.62 for removal of snow and ice, as compared with \$86,425.70 and \$45,848.08 spent for these two items, respectively, by the New Jersey company. The three items together amounted to \$332,707.47 in Cleveland, as compared with \$283,815.13 in New Jersey. The Cleveland mileage was 385.3, as compared with 849 miles on the New Jersey system, including about 600 miles in paved streets.

The taxes levied against the Cleveland company in 1918 amounted to \$720,413.14, as follows:

Real and Personal Property	\$420,000.00
Ohio Excise	149,192.50
Ohio Utilities Commission	3,606.58
U. S. Income	123,541.40
U. S. Internal Revenue	135.00
U. S. Capital Stock	14,712.85
U. S. War	6,832.81
U. S. Bond Interest	2,392.00
Total Taxes	\$720,413.14

These taxes amounted to 2.0535 cents per car mile, or 5.79 per cent of the gross earnings. The taxes levied against the Public Service Railway Company in 1918 amounted to \$1,644,398.82 as follows:

State Franchise Tax on Capital Stock.....	\$ 713.99
State Franchise Tax on Gross Earnings.....	547,756.57
Taxes on Real Estate & Personal Property.....	662,518.08
5% Tax on Gross Earnings (Local)	233,068.96
Car Licenses	17,773.33
Franchise Tax (Local)	17,463.54
Federal Income Tax	149,032.57
Federal Excise Tax on Capital Stock.....	5,538.50
Federal Excess Profits Tax	10,533.28
Total	\$1,644,398.82

These taxes are the equivalent of 3.088 cents per car mile or 8.28 per cent of the company's gross earnings. From these figures, it appears that the taxes levied against the Public Service Railway are nearly fifty per cent higher than the Cleveland Railway taxes under the Tayler franchise.

Hon. Lewis Nixon, at that time Public Service Commissioner for the First District of New York, favored the elimination of street railway taxes and paving

requirements, but thought this policy could not well be adopted while the fixed 5-cent fare is retained. At page 1292 of the Proceedings, he says:

"Since this is a public service I am under the conclusion that both paving requirements and taxes should be done away with. Now understand, that, like the liquor tax, means a tremendous sacrifice to the government in itself, and the government of the city has not any too much money now; hence it would be combated. This is a public service. The streets belong to the people for walking on them or driving on them or for travel on these cars. The man that drives and walks, certainly the man that walks, pays no special tax. The automobiles pay their tax to the state; they are all equally wearing upon the street, but the streets are for the purposes of the city. We have made our bridges free, and it seems to me that proper consideration of the burdens which are to be placed upon these companies will require an assumption of the fact that taxes in general and the fixing and repairing of the streets should not be paid by them, because we must not lose sight of one fact, that no matter what it costs, the people are going to pay it in the long run.

"The Chairman: Do you favor eliminating assessments and taxations when the company is operating under a fixed charge?

"Mr. Nixon: No, not at all. As long as the 5-cent fare remains fixed we must I think put the taxes on them."

With respect to the appropriateness of paving charges considerable differences of opinion developed. In so far as original paving costs are concerned, if borne by the companies they are capitalized and affect the cost of service only as they increase the total cost of capital. Paving repairs are a matter of maintenance, and repaving is properly a matter of depreciation reserve. The presence of street railway tracks in a public street makes paving practically necessary if the entire roadway surface is to be available for use by vehicles generally. Where paving is required for other reasons, the cost of it is probably enhanced to a slight extent by the presence of the rails. Where pavements are in existence when the tracks are laid, the cutting and restoration of the pavements are obviously a part of the cost of construction of the railway. Mr. Harlow C. Clark stated that about ten per cent of the capitalization of the Rhode Island Company was based on paving construction costs which the company had been compelled to assume. From the street railway appraisals which I have examined, it appears that paving generally ranges between five and ten per cent of the entire reproduction cost new of street railway properties. Some witnesses regarded paving charges as logical in their origin, on the ground that street car horses with their iron shoes used to wear out the pavements; but contended that these charges are now out of date, alleging that electric cars do not materially affect the pavements. It may perhaps be said that the bankers, the electric railway operators and the lawyers were more or less agreed that the electric street car should be acquitted of any serious offense against the pavements, while the engineers, the city officials and some of the regulatory men spoke out for conviction of offenses ranging all the way from assault and battery to murder in the first degree. Mr. Lucius S. Storrs laid especial emphasis upon the injustice involved in giving the new competitors of the street railway the free use of pavement laid at street railway expense. At pages 442 and 443 of the Proceedings, Mr. Storrs says:

"I would like to emphasize, if I may, this point, the one phase of the combination of competition and imposts which is so hard upon us, and that is that of the motor truck. I think we will all acknowledge that the one thing that wears out the city pavement most is the highly developed motor truck. I happen to recall now, passing in front of my house which is on one of the principal city streets leading through the city of New Haven, frequent fleets of trucks which pass by there, going at as high a rate of speed as they can and escape on, and at night-time, unfortunately, there are no traffic policemen out there to stop them. The result is that the pavement through there is being torn up. The wooden blocks are

being torn out of the pavement. When it rains the wooden blocks are sucked out of the pavement by these trucks, and, unfortunately, the poor electric railway company has paid for 19 feet out of a total of 40 feet of the pavement.

"Mr. Warren: The street railway company has paid for 19 out of a total of 40 feet of the pavement?"

"Mr. Storrs: Yes, sir; and that is true throughout the country, wherever the right of way has been given to that competitor. Of course, in this case, a long-distance motor truck would not be a particular competitor. The right of way has been provided very largely at the expense of the riders on the cars, and that is being torn up and destroyed by a form of transportation that pays nothing whatever towards the maintenance and upkeep of that highway."

Further on, at page 444 of the Proceedings, Mr. Storrs and Mr. Warren discussed the relative rights of the general tax payers and the car riders, and gave the impression that they had the matter analyzed down to a very simple question. The discussion follows:

"Mr. Warren: These imposts which you have described, such as paving, bridges, street widening, street cleaning, and other requirements of that sort through the street railways on the car riders, really all analyze down, do they not, to a question of the expediency of relieving the general taxpayer through an indirect tax upon the car rider?"

"Mr. Storrs: Absolutely. There is no question about that. That has to be recognized either in an increasing rate of fare or a decreasing facility, or deteriorating facility.

"Mr. Warren: And while the street railway was supposedly prosperous, it seemed an easy way to increase municipal revenue?"

"Mr. Storrs: Yes, sir.

"Mr. Warren: But now it becomes a very acute question as to whether the people who have the property shall pay for these various burdens, or whether the people whose interests force them to ride on the street cars shall pay?"

"Mr. Storrs: Yes, sir.

"Mr. Warren: That is all there is to the question, is it not?"

"Mr. Storrs: Absolutely, as far as those imposts are concerned."

At this point, Commissioner Meeker raised the question as to the possible damage done by cars to pavements, and Mr. Storrs was led to make a slight admission at page 444 of the Proceedings, as follows:

"Commissioner Meeker: Mr. Storrs, it is true, is it not, that the street railways do wear out the surface of the street, to a limited extent, next to the rail?"

"Mr. Storrs: Next to the rail for a distance of 5 or 6 inches.

"Commissioner Meeker: Would you advocate the exempting of the street railways entirely from any charge for paving the streets, because of the insignificance of the area that the street railway traffic actually affects?"

"Mr. Storrs: I think not particularly on that basis, but upon the theory that communities are giving to other means of transportation a thoroughly improved highway, and they certainly should be willing to take up the relatively insignificant burden that that might be, but which is a very large burden, of course, in the total paving costs."

Mr. Roger W. Babson was questioned about the implications of his suggestion that certain restrictions on the street railways should be removed, so as to allow them freedom to compete with the automobiles and jitneys. At page 1057 of the Proceedings appears the following:

"The Chairman: Are you willing to suggest that where there are automobiles and no jitney service, the laws giving the commissions the right to fix just and reasonable rates should be repealed?"

"Mr. Babson: Not for the first thing, no; I would not say that. I would say that the first step in such communities would be to relieve the roads of taxation and paving and various other forms of persecution. That is the first step."

A little further on, Chairman Elmqvist asked Mr. Babson what he referred to as "persecutions." The answer is given at pages 1057 and 1058 of the Proceedings, as follows:

"Mr. Babson: I mean these questions about the traffic, for instance: in some cities where they have to pay for a portion of the traffic officers, for example. Also, I think this

matter of paving between the rails, at the present time, has absolutely no excuse whatever; because in a great many cities it is the only part of the street that is used by the automobiles. I took a trip yesterday from Boston out, and it was a double track road, and the only place where the automobiles could run with any degree of comfort was on the paving which was put in by the street railways. The boulevard on each side of this paving was very rutty and very bad, and no automobile could run in it with any comfort.

"The Chairman: Now you have described traffic conditions and the paving. What other persecutions have you in mind?"

"Mr. Babson: I should say the general taxation. In Massachusetts we have, I think, three forms: We have the property tax and we have the excise tax and we have the franchise tax.

"The Chairman: Do you regard as persecution most of these efforts by which the public seeks to impose charges or burdens upon the street railway companies?"

"Mr. Babson: Not when they had a monopoly. I believe in the taxation of monopolies, absolutely. If I had charge of the taxing of this Government, I would raise every cent by the taxation of monopolies, and land values, and natural resources. I would take off income taxes, and take off all taxation on enterprise and effort. I should raise my money from the taxation of monopolies and natural resources and land values, and so forth. But when that monopoly has gone by, and when the street car business is no different from the dry goods business, or the restaurant business, or any other business in town, which is the condition it is in in most of the communities today, I should relieve it from those burdens."

When we turn to the testimony of a man who has been a city engineer and a city manager, we get quite a different result. On this matter of the justice of the paving charge, Mr. Gaylord C. Cummin gives the following testimony at pages 46 and 47 of the Proceedings:

"Commissioner Sweet: What do you say about paving between the tracks and for a foot or so outside?"

"Mr. Cummin: The cost of paving between the tracks and for a foot or two outside is an unjust burden on the street railroad companies at present. Our street paving was started in this country when we had horse cars, and the horses did wear out the pavement, and that is the reason it started in that way; and it has been put in every franchise, or almost every franchise ever since, because the street railroads could not get out of it, and they just had to submit to it. There is an undue burden, the maintenance of it; and any extra cost due to the track should be paid by the street railroad; that is perfectly proper; but the pavement itself should not.

"Commissioner Wehle: You mean that part of the cost of maintenance that is not due to the wear and tear of other vehicles?"

"Mr. Cummin: In fact, the most of the cost of maintenance of the pavement between the car tracks is due to the rails and operation over them. They have to be cut into fairly frequently—a joint goes down, and it will break up the pavement for a little distance around, soft spots develop in the roadbed, and it will result in raises and depressions and so forth, and the big bulk of your maintenance is maintenance that is fairly well traceable to the street railroad. The maintenance is a proper charge against the street railroad.

"Commissioner Sweet: But the original construction is not?"

"Mr. Cummin: The original pavement, except that part of it which may be an extra, due to the cost of paving around the rails, and things of that kind, if it should exist, should not be paid by the railroads. The extra cost, of course, that is necessitated by reason of the pavement being laid around the rails, should be paid by the road.

"Commissioner Sweet: Even at that, hearing in mind the fact that the public is so deeply interested in having the advantage of the street railroad there, is there any unfairness in having the public pay for all the paving?"

"Mr. Cummin: If they want to; but I think if they pay the maintenance as well—I do not believe it is going to be a practical operating proposition, because a large part of that maintenance may have to be done by the track men of the street railroad, the men who are taking care of the track."

Further on Mr. Cummin expressed the opinion that a portion of the construction cost of the paving in and about the tracks ought not to be charged to the street railway companies; and in some cases certain other charges against the companies have been too high. At page 48, he says:

"There are two parts in the paving to the street railroad. One of them is absolutely charged against the street railroad, and that is the cost of preparing the roadbed and putting in the new track and ties, and concreting in the ties. They concrete them in, getting up to the point where the surface is to go on. That is perfectly all right. That is chargeable

actually to the company. Then the rest of it is generally charged for at just the same price as for the rest of the paving job, per square yard. In most cases the contractor makes no difference for the paving between the rails and a foot outside as compared with the rest of the paving.

"Commissioner Sweet: Is the paving requirement of a privately owned street railroad company universal in this country, or does that vary?"

"Mr. Cummin: As far as I know, I have not been in any city yet where it was not required, and in my experience I have never seen any franchise where it was not required.

"Commissioner Sweet: So that as far as you know it is a uniform requirement?"

"Mr. Cummin: Yes; and that is an unjust burden. That is something that can be taken off. I think the same thing occurs on some bridge rentals. In some cases they have not been rentals, but they have paid a lump sum, I think, in some cases, and that has been too big.

"I think it proper that a street railroad should compensate for extra cost in making that bridge strong enough to carry the additional loads put on it by the street railroad company. It perhaps should pay a small additional rent, but I think in some instances the amount required to be paid has been unreasonable."

Lieutenant Colonel Charles W. Kutz, Chairman of the Public Utilities Commission of the District of Columbia, was so much impressed with the difficulty of relieving the companies of the responsibility for paving repairs so long as they own the tracks that he suggested municipal ownership of the roadbed and undivided municipal responsibility for its construction and maintenance. His testimony on this point is found at page 1040 of the Proceedings, as follows:

"I would like to say just one word about the question of paving, which the Secretary of War brought up this morning, because from an engineering standpoint I see great difficulties in a divided responsibility for the paving between the rails and over the ties.

"The damage to the paving between the rails and for two feet outside the outer rail is not caused by the traffic on the street to anything like the extent that it is caused by the character of the foundations under the rails.

"If the rails are on ties, and those ties are not properly tamped, they are going to heave up the best pavement that can be laid.

"If the rails are on cast iron yokes imbedded in concrete, and those concrete foundations under the yokes are not adequate, so that the rails settled, they will break up the best concrete and asphalt pavement that can be put down.

"If you have the railway company responsible for the foundation under the rails, and the city responsible for the paving, there is going to be a constant source of trouble and difficulty. So the suggestion has been made that if the companies are to be relieved from the cost of paving and maintaining the pavement between the rails, it would be better to go one step farther and let the city acquire title to the roadbed, that is, the rails and their foundations, leasing them to private operating companies. In other words, it would be municipal ownership of the roadbed, but with private operation of the railway company."

Interstate Commerce Commissioner Eastman also called attention to the fact that electric railway tracks affect the pavements. Commissioner Sweet brought up the analogy of fire hydrant service paid for by the tax payers. The following question and answer appear at pages 2082 and 2083 of the Proceedings:

"Commissioner Sweet: Looking at it as a matter of justice between one part of the community and another, is not the same kind of a question involved in the paving between the tracks of street railroads, as practiced at the present time? Are we not exacting from the car rider a service that ought to be performed by the entire community?"

"Commissioner Eastman: I think you are. There is something to be said on the other side of that question, because while the situation is not now as it was when the practice originated; that is to say, it originated at a time when horse cars used to wear down the pavement, at the same time I think it is true that the presence of street railway tracks in the street increases the expense of paving. The paving is apt to wear out quicker in streets where there are street railway tracks than where they are absent. So that the presence of the street railway tracks in the street does impose some extra burden upon the paving cost. It is very difficult to measure that, and under present conditions, faced by the plight of the street railways at the present time, I think it is entirely desirable that that expense should be met by the entire community, rather than by the car riders."

Commissioner Eastman evidently recognized an emergency as a result of which policies might properly be adopted which under other conditions would be

of doubtful propriety. Chairman Richard T. Higgins, of the Connecticut Public Utilities Commission, also recognized an emergency, and advocated not only the permanent elimination of paving assessments and other special burdens imposed on the electric railways, but also the temporary elimination of street railway taxes. Mr. Francis H. Sisson also expressed the view that in many cases the companies might be saved by this kind of relief. At page 325 of the Proceedings the following testimony is found:

"Commissioner Sweet: In regard to taxation, you said you thought certain forms of indirect taxation, like paving between the tracks, bridge tolls, bridge repairs and that sort of thing, all of which are now borne by the street railway companies, in many instances that should be avoided, that that is a bad practice.

"Mr. Sisson: Well, I think it imposes undue hardships upon the transit lines in many cases, and it might mean the difference between solvency and insolvency in many cases. It seems to me that when these lines are operating so near the danger line as they are, the community might very well afford to undertake those improvements at its own expense, rather than force the issue against the lines. Of course, that situation would vary in different communities. It is very hard to generalize about that."

When Mr. Henry L. Doherty appeared before the Commission, Chairman Elmquist asked him for suggestions as to what the Commission might do to help the situation. At pages 409 and 410 of the Proceedings, Mr. Doherty says:

"We have lots of obligations forced on us now that are relics of the past, and we cannot get rid of them. I cannot think of all of them sitting here. But every possible relief which can be given to the street railways and transferred from a specific charge against them to either the property holders or the general fund should be done. Because even if a man has an automobile and does not use the street railway, he wants it there, it is an asset there to him. It is there ready to serve the needs of his premises with a messenger boy or anything else that comes along, and in a way you could almost justify a subsidy for a railway rather than have it shut down. Even if the people did not use it enough to pay for it, it would still be a municipal necessity. One of my first thoughts would be to take off every load that can possibly be taken off of the street railway company."

Dr. Thomas Conway was not very optimistic of the results, but he thought that the first step toward a solution of the street railway problem should be the lifting of the burdens. At page 952 of the Proceedings, he says:

"I sat here this morning and listened to various gentlemen express their views on taxes—paving, for instance. My belief is that, taking the companies as a whole, all the things that you can suggest of relieving them of taxes and of paving requirements and all of the other obligations which represent an indirect tax on the car rider, a necessary addition to his fare, will not meet the situation by offsetting these increased costs; but all of that, if given to them, still means for many properties a rate of fare which is almost prohibitive, as a practical question.

"Therefore, as I see it from the Commission's point of view, you start by these abatements as a necessary element, because without them there will be hundreds of electric railways that will have to go to the junk heap, unless they are to be taken over and operated by the public, who bear the deficit through taxation."

Professor Bullock was strongly opposed to the adoption of a permanent policy of tax exemption with respect to street railways. He even favored the payment of regular taxes by municipally owned utilities. But he conceded the existence of an emergency that would justify the complete abolition, for a period of years, of the property tax as applied to street railways. As coming from the most eminent authority on taxation who appeared before the Commission, Professor Bullock's final suggestions are entitled to very careful consideration. At pages 653 and 654 of the Proceedings, he testifies as follows:

"Commissioner Sweet: Do you think there would be any impropriety, anything wrong or unreasonable in the total remission of taxes for a limited period?"

"Mr. Bullock: I do not. I think it will come to that in many cases, or else it will be made up in some other way. We may go through the form of levying taxes and then make up a deficit. That is what we are doing in Massachusetts. * * * * It is whipping the devil around the stump. * * * * What is involved is giving a subsidy to an industry that faces ruin. * * * * I think that undoubtedly the adjustment of all these inequalities in taxation will take time. Where the situation is bad enough, however, the adjustment might be quickly reached and a recommendation from the Commission would be helpful. Moreover, a recommendation of higher rates to be paid by car riders would have more force in it were it accompanied with a recommendation that unequal charges be done away with. Whether your Commission went on the theory that the time had not come to take off ordinary taxes and recommended that ordinary property taxes be left, but that taxes in excess of what ordinary property pays should be remitted and other charges cut down, such a recommendation would help very much a recommendation for higher rates.

"The street car rider will object, and justly, to higher rates that enable the continuance of taxes which under a scheme of public regulation amounts to a special tax on the transportation industry and which he pays for the benefit of property owners. It is hard to raise the fares. A street car fare is not like your gas bill that you have once a month; you have your bill presented to you twice a day, six or seven days in the week, and the increase comes to you, the fact of the increase is very obvious, it is rubbed into the street car riders twice every day. And a recommendation would come with greater weight, it seems to me, if it were accompanied with a very strong recommendation for the abolition of unequal taxes."

Further along, Professor Bullock was questioned about the possible abolition of all taxes under a service-at-cost plan and about the adoption of a net income tax as a permanent policy. His answers are given at pages 660 to 662, as follows:

"Mr. Warren: Is it not at least a debatable question whether if a service-at-cost plan or some other form of partnership between the corporation and the municipality were adopted, whether under those circumstances the property should be taxed?"

"Mr. Bullock: It is perhaps debatable. I believe that under normal conditions the property of municipal industries ought to be taxed.

"Commissioner Meeker: Municipally owned industries?"

"Mr. Bullock: Yes, and of course, in England that is done. If the city municipalizes its gas works it pays the national income tax. The exchequer does not lose thereby and the real estate is supposed to be taxed for local taxation like other things. * * * * Exempting the property of public industries from taxation can be carried only a certain distance without producing conditions which lead to a reversal of policy. In Europe the property of municipal and state industries is not uniformly taxed. In this country it sometimes is. Our Federal forest reserves, for instance, are not taxed, but a part of the revenue is given to the counties in which they are located.

"Mr. Warren: So that in the English system the car rider or gas consumer pays a proper proportion of tax?"

"Mr. Bullock: Pays a proper proportion of tax.

"Mr. Warren: Whether it is municipally or privately owned?"

"Mr. Bullock: Whether it is municipally or privately owned.

"Mr. Warren: And you see no distinction between the principle of taxation which ought to apply, whether the plant is publicly or privately owned?"

"Mr. Bullock: I do not. Under proper conditions the city—well, there is an absolute limit to the amount of property that you can withdraw from taxation. The Prussian railroads were taxed locally, and they had to be. They never would have been nationalized otherwise. If our government takes over the railroads it has to have the consent to tax them, and the proper condition is one in which industries of this character, if owned by the municipality, have charged against them their due share of all taxes.

"Commissioner Meeker: * * * * You spoke of the property tax being rescinded in favor of a net income tax for the time being. Would it not be better to adopt the taxation of net income as a permanent policy?"

"Mr. Bullock: I doubt if it would. At least so far as all the real estate is concerned. Real estate cannot be taxed on its net income for local purposes.

"Commissioner Meeker: But what real estate does the street railway company own?"

"Mr. Bullock: Well, it has its power houses and barns and electric railway rights of way which they own in a good many cases. The real estate element with the electric railway is not as important an element as with steam railways, but still it is an element. I should say such real estate as they own should not be exempted from the property tax under any condition. Their other property, their cars and other things might very well be exempted from taxation and you might very well have an income tax on the railroads and then a real estate tax on their real estate. Now, that solution might be a very good ultimate solution. To illustrate, in other—

"Mr. Warren: Under normal conditions?

"Mr. Bullock: Yes.

"Mr. Warren: You are not proposing to modify what you said about the possible exemption in view of the peculiar conditions?

"Mr. Bullock: My income tax suggestion which I make on the last page of the brief has reference to an immediate measure of relief. To suspend the property tax for five or ten years and impose a tax on the net income would give a very large amount of relief, and it is fairly justified if the emergency is as great as I think it is in many cases.

"Commissioner Meeker: But you think it should not be adopted as a permanent policy—

"Mr. Bullock: I think it should not be adopted as a permanent policy.

"Commissioner Meeker: Except as you have indicated, in a modified form?

"Mr. Bullock: In a modified form."

The confusion of testimony with respect to street railway taxation and other public charges only emphasizes the fact that first of all we need a policy. Then emergency measures can be adopted that are consistent with it; but until we have settled the great debate as to the ownership and operation of the electric railways, temporary expedients are likely to prove both futile and full of danger. While the electric railways remain in private hands, the granting of substantial relief through the lifting of franchise burdens or the lightening of taxation will necessarily be a slow and painful process. Governments everywhere need money. To give up familiar and established sources of revenue is like having one's teeth pulled. No doubt, under great pressure and in connection with an entirely new deal such as a service-at-cost arrangement, it will be possible here and there to remove some of the burdens. Yet it is not clear that any uniform rule of exemption can be carried out or even recommended except in terms of a definite and comprehensive policy for the permanent readjustment of the public relations of the electric railway industry. Where unjust burdens exist, as a matter of course they ought to be lifted. But the sweeping statements sometimes made with respect to the overtaxation and the overburdening of the street railway companies are by no means uniformly true. It would be easy to recommend exemption from taxation if the municipalities were not in serious need of the money or if the direct tax payers did not have their backs against the wall just like "other people." The city of Detroit which has recently voted \$15,000,000 of general bonds to be used in building a municipal street railway system adopted a municipal ownership amendment to its charter in 1913 and later adopted a new charter with a municipal ownership chapter embodied in it. This chapter provides for the construction or acquisition of a unified municipal street railway system and requires that the municipal railway shall pay taxes just as if it were privately owned. It is not to be expected that the voters will willingly grant exemptions to private companies which they deny to themselves. It can easily be argued that from the point of view of public welfare complete or partial exemption of the street railways from taxation, paving obligations and other public charges is preferable to radical fare increases, but this preference cannot readily become effective while local transportation service continues to be furnished by private agencies actuated by desire for profit. When local transportation becomes a recognized factor of the city or the state plan, then we can begin to talk more effectively about the social aspects of street railway taxes and street railway fares.

CHAPTER XXXI

EFFICIENCY IN MANAGEMENT AND ECONOMIES IN OPERATION

Those who advocate the continuance of the policy of private ownership and operation of the electric railways, even under the adverse conditions that now beset the local transportation industry, find their principal support in the assumption that private management is more efficient and that private operation is more economical than public. None can dispute that the past two or three years have been an appropriate time for the searching of hearts in the electric railway business. Is it a fact, or is it not, that up to the present time the industry has been efficiently and economically managed? The record proves conclusively that the financial management of the industry, at least in its relation to capitalization and fixed charges, has left much to be desired. The operating men have been handicapped in several ways. First, they have been subject to the control of the financiers and speculators who have mismanaged the capital account. Second, they have been subject to a more or less intermittent and arbitrary control by public authorities through franchise requirements, state and local legislation and the orders of public service commissions. Third, they have undoubtedly suffered in some measure from the paralyzing effects of monopoly. Under all the conditions it would not be surprising to find that street railway management had been exceptionally inefficient as compared with other private industries of somewhat similar magnitude. If the rule that freedom of initiative and definiteness of responsibility are essential in producing efficient management and economical operation is a sound one, then it would not be difficult to prove that street railway managers generally have not been in a position to develop efficiency and economy to their full possible extent.

Before going further in the discussion, it is desirable to consider the interest of the public in economy and efficiency in the operation of local transportation systems. It is easy to say that economy and efficiency mean low cost of service and that low cost means low fares; but such a statement does not give a complete picture of the situation. Investors, where their interests have free play, undoubtedly secure benefits from economy of operation; and also from efficiency in operation, where efficiency means no more than a high-sounding or far-seeing economy. It is possible that economies may be short-sighted and take the form of parsimony. Such economies are not beneficial in the long run even to the investors. On the other hand, efficiency may take the form of more service, better service or more costly service at the same rates, and such efficiency is not directly beneficial to the investors, although it may be of indirect benefit to them in the long run. From the point of view of the public, economies that actually reduce the cost of service without curtailing the amount or the quality of service, if such

economies are reflected in the fares or in a share of profits turned into the public treasury, are beneficial; and efficiency that means more service or better service for the same money is of course beneficial; but economies that mean a curtailment in the quantity of service or a deterioration in its quality are not beneficial to the public. Efficiency, if it adds to the public convenience, is beneficial; otherwise not. The distinction between the public interest and the interest of the investors in economical and efficient operation is real, though somewhat elusive. At certain points the public and the investors have a common interest; at other points their interests are antagonistic. Accordingly, when we are considering efficiency in management and economies in operation in the street railway business, we cannot assume that this efficiency and these economies are necessarily something to be desired. Each factor entering into the problem of efficiency and each particular element of possible economy is to be judged on its merits in connection with its double relation to the rights of the investor and the rights of the public.

In general, it may be said that the witnesses for the American Electric Railway Association assumed the general existence of good management in the industry and although some of them called attention to economies that might be effected, the general trend of the testimony presented on behalf of the Association was to the effect that the street railway companies are primarily the victims of conditions and circumstances outside of their control. With respect to the efficiency of their management, Mr. Francis H. Sisson, speaking from the point of view of the investment banker, gives rather emphatic and sweeping commendation. At pages 326 and 327 of the Proceedings, he gives the following testimony:

"Commissioner Sweet: In your judgment, are the street railway companies at the present time being managed efficiently?"

"Mr. Sisson: On the whole, I think they are. We, as bankers, have just finished a very searching and thorough examination of the New York transit lines, entirely impartial and quite critical, and the reports that we get are most reassuring that, so far as the management is concerned, it is just as nearly efficient as it can humanly be made, and that I think is true of most of the high-grade lines throughout the country.

"Commissioner Sweet: We had evidence yesterday from Mr. George, one of the receivers of the Pittsburgh Railways Company that, after taking charge of the property, they reached the conclusion that the management had been both honest and capable.

"Mr. Sisson: Yes; I think that is broadly true throughout the country, of the lines with which I am familiar.

"Commissioner Sweet: Have you any direct information on that point from the receivers of other companies, or in any other manner?"

"Mr. Sisson: Yes; particularly in New York City and Brooklyn, where that is the opinion of the receivers of all the companies there, I think I am safe in saying, and better than that, it is the direct finding of capable engineers who have made this analysis for the benefit of the security holders.

"Commissioner Sweet: I assume that there may be instances of incompetency, and possibly of dishonesty, in some particular localities.

"Mr. Sisson: Undoubtedly.

"Commissioner Sweet: What is your judgment in regard to the business as a whole, whether it is managed with honesty and ability, and with an earnest desire to promote the interests of the general public, as well as of the investors.

"Mr. Sisson: I think, from a very careful study of the situation, that it ranks above the average business in all those particulars.

"Commissioner Sweet: You do?"

"Mr. Sisson: I do. I might say in that connection, because of the necessities of their situation."

On the other hand, certain of the witnesses testifying on behalf of the general public took the position that in the past street railway companies generally have been badly managed and that with a proper spirit of initiative and enterprise they could go a long way toward solving their own problems in the present crisis without asking any favors from the public. For example, Mr. Morris L. Cooke, of Philadelphia, as already noted in Chapter XXII of this report, took the position that "our street railroads constitute, broadly speaking, the most completely discredited feature in the administration of a city." It is clear from Mr. Cooke's further testimony that he meant to indict them for mismanagement. At page 1689 of the Proceedings, he says:

"Because the profits have been made through financing these properties rather than through operating them as public services, the valuation factor has, from the first, been over-emphasized. In fact, up to a recent date, one hardly ever heard of the efficiency-of-operation factor."

In referring to the activities of the national utility associations, including the American Electric Railway Association, he says, at page 1690 of the Proceedings:

"Those who seek to uphold any measure, device or system which will run counter to that which has received official sanction by these associations, are subjected to a relentless and usually quite effective pressure. There has been established an essential solidarity in these industries which is frequently anti-social, if not illegal, and which discourages initiative and enshrouds the whole utility world in a maze of autocracy, secrecy and ultimate inefficiency."

Again, at page 1693 of the Proceedings, Mr. Cooke says:

"It is futile to lift the handicaps under which this industry suffers, unless it be preliminary to making constructive suggestions which are not only possible of execution, but which give promise of relief. I am convinced that any program for the rehabilitation of those properties to be successful must have efficient operation as its primary plank.

"After all, it is much more fundamental to ask how these properties are to be operated than who is to operate them."

At page 1694 of the Proceedings, he alleges that "there is almost no cost keeping on American street railways." "What is even more astounding," he adds, "is that most street railway men consider it impossible to secure costs." At page 1694 of the Proceedings, he says:

"Of course, after operating effectiveness has been substituted for the financial and pseudo-financial incentives which have heretofore obtained, there is gradually developed throughout the system and in all departments a genuine science in management. Pick-up, gains, economies and new ways of increasing efficiency become the rule. The management becomes imbued throughout with the spirit of progress, and men who look upon the industry as static and use methods without present day value are eliminated.

"It is as futile to make constant demands for increased fares in the absence of some genuine and enlightened effort toward more efficient management as it is for labor to constantly demand shorter hours and increased wages without making provision for increased production. Carried beyond a certain point it is equivalent to the effort to create something out of nothing."

In closing his formal statement, Mr. Cooke says at page 1696 of the Proceedings:

"There is in my opinion no ultimate solution except we can get it on to a basis of a contract that is continually advantageous to both parties, and the shorter the term of that contract and the easier it is for either side to change it, the better it would be, in my opinion."

Chairman Elmquist then asked Mr. Cooke what elements should be included in the contract. The portion of his reply relating to management is found at page 1697 of the Proceedings, as follows:

"Starting in with good management, understand I am not interested in working out any problem unless you have good management or there has been some evidence that the company is not only willing to put in good management but knows what good management is. I dare say that nine out of ten men in this industry in the management are firmly convinced that they have now good management and, unless you can change that point of view, then I think it is perfectly hopeless.

"My idea of management is that it is something that is not static; that the better management you have today the larger the opportunities for improvement just ahead of you. In other words, the industrial establishments with which I am familiar that are already on the best plane of management are the ones that are looking forward most to the improvements and economies and forward steps of the future. It is the man that is down at the heels that thinks management is static."

Mr. John A. Beeler, transportation engineer, though not an economist, may properly be described as a professor of street railway economies. His long experience as manager of the Denver Tramways Company and his recent country-wide and successful practice as a consulting engineer primarily interested in devising means for improving street railway service, increasing street railway revenues and effecting street railway economies gives him exceptional qualifications for expert testimony along these lines. He maintains that the question of operating economies is paramount. Referring to them at page 1664 of the Proceedings, he says:

"They are many, and most of them can be applied to every company, regardless of the fetish of local conditions."

At pages 1674 and 1675 of the Proceedings, he summarizes his proposed remedies for the present evil plight of the electric railway industry. Most of his suggestions fall within the scope of our discussion in this section. He says:

"To enable the street railways to get out of the serious situation in which they now are the following can be done:

"Reduce taxation to place the street railways on a par with other industries.

"Employ operating economies such as:

- Better and faster schedules
- Reduction of layovers
- Improvement of routing
- Abandonment of non-essential service
- Standardization of equipment
- Saving of power
- Eliminate waste

"Obtain the cooperation of the authorities and the public in the following:

- Installation of loading platforms
- Cooperation of the police
- Regulation of street traffic
- Control of parking
- Elimination of steam railroad grade crossings
- Regulation of jitney and bus competition
- Staggered hours of business
- Skipstops

"Employ methods to increase the gross receipts, as

- Encourage short-haul riding
- Shorten headways
- Replace insolence and inattention with courtesy
- Drill employes in principles of salesmanship
- Reroute to increase business
- Use the safety car and more attractive cars generally.

"A raise in fare by itself, without employing methods to induce and encourage profitable riding, or without employing more efficient methods of operation, will fail.

"Automobile and bus transportation is far less economical than efficient electric railway service. By the adoption of the remedies proposed, good street car transportation will be retained and the industry made self-supporting."

The extent to which these several suggestions promise relief must now be considered. Discussing the importance of the "schedules" in street railway operation, Mr. Beeler, at pages 1664 and 1665 of the Proceedings, says:

"The most important items in any company's operations are:

- (1) Frequency
- (2) Regularity
- (3) Speed

With these items right almost any company will succeed. They have such a far-reaching effect on the operations that many an otherwise good concern has gone on the rocks on account of poor schedules.

"What an increase of one mile per hour will do in the operations of the average company is perhaps the most potent illustration that can be had. A company with an average schedule speed of 8.4 miles per hour, which is practically the average of street railways in the United States, as near as can be obtained, is represented by A, while B has been speeded up to 9.4 miles per hour. Note well the difference:

	A	B
Speed, miles per hour.....	8.4	9.4
Earnings per car mile.....	40c	40c
Earnings per car hour.....	\$3.36	\$3.76
Expenses per car hour.....	\$2.52	\$2.52
Operating ratio	75%	67%

With the same identical car mile earnings this increase in speed alone will come within one point of making an average company self-sustaining, as it has been shown already that with an operating ratio of 66 per cent sufficient will remain to provide proper replacement charges and return six per cent on the investment.

"The acceleration and braking should be increased. The average road will show about 1.5 miles per hour per second, while 2.5 will provide much speedier operation, increasing schedules say 10 per cent. The duration of stops will also automatically be shortened as passengers get used to good operation. They invariably prefer it to the slow, halting, undecided movements now prevalent on so many roads."

The proof of the pudding is in the eating. The Cleveland Railway Company stands out conspicuously on account of its demonstrated ability to earn the standard return upon the investment during the war period while continuing to maintain its property without going above the five-cent cash fare with a transfer charge. That the striking relative success achieved in Cleveland was due in part at least to economies in operation brought about through public cooperation is amply proven by the testimony. On this particular point Mr. Beeler, upon cross-examination by Mr. Warren at pages 1685 and 1686 of the Proceedings, says:

"Mr. Warren: You spoke of Cleveland as giving better service, I think, at around 5 cents than many if not most of the companies that have raised their fares. Are the conditions in Cleveland materially different from those in many cities as regards the length of haul, not possible haul but actual haul?

"Mr. Beeler: I think that is about the average condition obtaining there. Cleveland was one of the first cities to adopt the elimination of unnecessary stops and by so doing they speeded up their schedules, and Cleveland today gets a higher scheduled speed than most of the average cities. At the same time they rehabilitated and put on attractive equipment and the result is that their car hour earnings are much higher than the average; their car mile earnings are about the average.

"Mr. Warren: Is there a direct relation between the speed and the operating expense?

"Mr. Beeler: There is.

"Mr. Warren: If you increase your speed 25 per cent is that the same as reducing your operating expenses 25 per cent?

"Mr. Beeler: Not the same, but it has a very marked influence. Take an average line that is earning 40 cents a car mile and making a speed of 8 miles per hour, it will be earning \$3.20 an hour. Take another line that is earning 40 cents a car mile with the same kind of equipment and making 10 miles per hour, it will be earning \$4.00 per hour. Now, the expenses are practically the same, almost the same. The way speed is made is by better acceleration and faster braking, eliminating the stops and delays, and that all has a tendency to reduce the operating ratio, for the reason that your wages are paid on the hourly basis. Practically all the income of a street railway goes out on an hourly basis or on a time basis

and the receipts come in on a mileage basis, for it is transportation that is being sold. Now, the more miles that we can get out of a street car the less the operating ratio and the less the ratio of fixed charges and everything else.

"Mr. Warren: Cleveland has a very high—

"Mr. Beeler: It has a high scheduled speed.

"Mr. Warren: And that was produced almost entirely, was it not, through the cooperation between the city and the company?

"Mr. Beeler: That was brought about very largely through the efforts of Mr. Peter Witt, who was at that time a city transit commissioner. He had made a study of the situation; the schedules were slow and he eliminated all of what he considered unnecessary stops and puts the stops further apart generally throughout the city and the speed was increased something like a mile and a half per hour. Not only did that increase the receipts per car hour, but it also increased the receipts per car mile, because it popularized the service and more people rode.

"Mr. Warren: But he also incidentally cleared the track too, did he not?

"Mr. Beeler: He cleared the track and secured the cooperation of the police at street intersections and in every other way possible.

"Mr. Warren: Much of that except with cooperation from the municipal authorities would have been beyond the power of the company to bring about, would it not?

"Mr. Beeler: The cooperation with the authorities to obtain the full result is absolutely necessary, yes, sir."

At page 1165 of the Proceedings, Mr. Beeler discusses the importance of "layovers," as follows:

"The elimination of excessive layovers is most important. The ratio of layover time to actual running time varies from 2 to 25 per cent. Long layovers are given frequently as a concession to labor when, if the nature of the resultant trouble were fully understood, labor would not want them.

"As an example, apply the extremes to two systems each earning 40 cents per car mile and making a running speed not including layovers of 9.33 miles per hour. The line with the 2 per cent layover will earn \$3.67 per car hour, while that with the 25 per cent layover will bring in but \$2.79. After paying the trainmen at the rate of \$1.10 per car hour there remain respectively \$2.57 and \$1.69. The long layover is a great handicap. The other line has 50 per cent more of its receipts left after paying wages. The only feature that is swift about a road with long layovers is the rapidity with which it approaches the receiver."

At pages 1665 and 1666, upon the subject of "routing," Mr. Beeler says:

"It is of the utmost importance that the lines provide the shortest, quickest and most convenient routes. Many cities today maintain routes and service designed for traffic conditions of a generation ago. This subject deserves the closest scrutiny. Rerouting coming under my observation has worked wonders in bettering service for the public, and at the same time saving money for the company.

"Through-routing to eliminate overlapping service frequently proves a tremendous force in reducing both expense and congestion, as both are synonymous. Short-lining and turn-back service will frequently enable a company to accommodate twice as many people during the rush as where all cars are run through irrespective of the length of line."

The Philadelphia Rapid Transit Company shares with the Cleveland Railway Company the honors of having maintained a relatively low fare and a prosperous financial condition during the present crisis. What rerouting and faster schedules accomplished in Philadelphia was brought out by the testimony of Mr. Coleman J. Joyce, representing Mr. Thomas E. Mitten. The Stotesbury-Mitten management took charge in Philadelphia in 1910. At pages 1526 and 1527, the following question and answer appear:

"Commissioner Mahon: * * * * Philadelphia was considered at that time, as we call it in the railroad world, an overrailroaded town when Mr. Mitten went in, and it was all readjusted, was it not?

"Mr. Joyce: Yes, sir; there was a very complete readjustment of the running of the cars. Where cars came downtown from the north and turned and made various tortuous routes through the business district through the heavy traffic, they were routed through from north to south and their routes were straightened out so as to improve the headway and the speed of the cars and to lessen delays of traffic. That, I think, everybody in Philadelphia now regards as a very beneficial change, both to the service and to the community.

"Commissioner Mahon: Undoubtedly; I am not criticizing that. The point I wanted to show is you cheapened the cost of operation to a greater extent possibly than any other railroad in the country."

Further on, at pages 1536 to 1538, Mr. Joyce again testifies on this same general subject, as follows:

"I have already referred to the rerouting of the cars. No small proportion of the success of the management may be attributed to the daily study of traffic statistics and the consequent routing of cars to more fully and economically serve the public.

"At the time of the incoming of the management, in 1910, little or nothing had been done in the way of rerouting cars so as to take advantage of unified operation. There were 92 separate routes upon the system, many of which were originally established by the different operating companies in competition resulting in waste and duplication of service.

"After the rerouting of the cars, there are 76 routes, which comprise the system as now operated.

"The changes have been made as rapidly as the confidence of the public and the cooperation of the employes would permit, the most recent change being the consolidation of two lines made within the last month, and resulting, we confidently expect, in a saving to the company of more than \$60,000 a year; and this combination of two lines resulting in the setting back, in the language of the men, the setting back of some thirty or more trainmen; setting them back in priority; and in spite of this, instead of opposition on the part of the men to that measure of economy, the Superintendent of Transportation had a complimentary expression from the men operating those two lines upon the economies effected and the common sense of joining those two lines into one. Not only that, but the joining of the two lines has resulted in improved income, increased riding and a better gross on that one single than on the two lines as formerly operated.

"The passenger receipts per car hour have increased from \$2.19 in 1910 to \$3.48 in 1918.

"Passenger receipts per car mile have increased from 27 cents in 1910 to 38 cents in 1918.

"Much light is thrown upon these comparative results by the fact that the average speed in miles per hour for the system has increased from 8.08 miles per hour in 1910, to 9.06 in 1918. This increase in speed has been accomplished through improvement in various factors, as, for example, reduction in the number of stops, the cutting down of the time consumed at each stop, through the introduction of the nearside and the center exit doors and the equipping of all cars with door-operating and time-saving devices.

"Prior to 1911, the time-table department was operating many lines upon all-day solid tables, meaning that a line having been designated as a five-minute line, the cars would be scheduled for a five-minute headway all the time with perhaps trips for the morning and evening rushes; but in the main the schedules were not based upon authentic checks to determine the varying riding characteristics of each line at the different hours of the day. The elimination of wasted effort in the schedule under the present management has included a very close adjustment of car schedule to the traffic of the line, and on some lines the headways are scheduled to change as often as five or six times in the 24 hours, with entirely new schedules for Saturdays, for Sundays and for holidays, based upon traffic observations which were made in several ways by special slips turned in by the conductors showing the maximum number of rides on the car each trip, by trained observers placed at strategical observation points along the line, who report the number of passengers boarding, the number alighting and the number of passengers on the car at these points; analytical studies of the transfers issued and collected at dominating points; and by these and other means the riding characteristics of each line, for each hour of the day, for different days of the week and for different seasons of the year are determined and are checked from time to time.

"The car service is then scheduled to put the cars upon the lines when and where the riding public needs them. A typical line would show a definite headway from the early morning hours, this headway becoming more frequent to meet the morning rush, then becoming longer to a minimum for the hours of, say, between ten and twelve in the middle of the day, and then becoming more frequent, the intervals between the cars reaching their greatest frequency at the peak of the evening rush, and then tapering off again until seven, when there is a slight increase to take care of the theatre and after-dinner traffic; again becoming less frequent from, say, twelve to one at night, and falling into the 'Owl,' all-night service.

"Traffic analysis is, of course, not peculiar to Philadelphia, but the maintenance and accuracy of these studies are perhaps unique, as is also the success attained by the present time-table experts in dividing the car runs into car hours to meet the desires of the majority of the trainmen.

"Here is where cooperation again comes in. Each new schedule, before it becomes effective, is submitted to the Cooperative Committee men from the depot concerned, and is subject to scrutiny by the trainmen involved, the declared policy of the department being that the cars must be placed upon the streets exactly in accordance with the needs of the traveling public, but the division of the car runs into crews and crew runs is accomplished to meet, so far as possible, the convenience of the men, who, it may be said, now fully appre-

ciate that increase in their wages is closely affiliated with the success of the management, in fitting the car service to the traffic without what we call wasted effort."

Mr. Walter A. Draper, Vice-President of the Cincinnati Traction Company, testified that his company expected to save about \$100,000 a year by rerouting. This appears at page 512 of the Proceedings.

The possibility of affecting considerable economies through the adoption of the skip-stop plan was discussed by a number of witnesses. In this connection, public convenience should be given special consideration. In small towns or on light-traffic lines, the skip-stop may hurt the service without producing much economy. If headways are infrequent, people do not enjoy walking to the next corner to take the car and seeing it go by while they are on the way. In this connection, it should be remembered, also, that it is the saving of actual stops, not of theoretical ones, that produces economy of power and promotes better speed. It is in the big cities where traffic is comparatively dense that the greatest economies can be secured by the skip-stop. On this point, Mr. Gaylord C. Cummin testifies at page 53 of the Proceedings, where he says:

"In the smaller cities the skip-stop saves nothing. * * * * In the larger cities I am not familiar with the actual figures, but I should say that there was a possibility that it did save something. That is, it might enable them to take out a car or so on a line at certain times, by increasing the speed at which they can get over the route. In a town of 30,000 or 40,000 or 50,000 people it does not do it. You have to deal in car units, and you do not save enough time to get rid of one car. If you are running fifteen cars at a time, you can not cut it to fourteen."

At page 1538 of the Proceedings, Mr. Joyce describes the results of the skip-stop policy in Philadelphia, as follows:

"The skip-stop was installed in cooperation with the Federal Fuel Administration, in order to conserve coal by reducing the number of stops, upon the theory that the electrical energy consumed in the acceleration or starting of a car is greater than that required to keep the car in motion after having gained momentum.

"The application of the skip-stop plan has resulted in reducing the number of stops in the city by more than 1,700 out of a total of something less than six thousand. It is difficult, if not impossible, to estimate the total savings from this plan, but a definite saving of more than \$100,000 in payrolls due to the conservation of the time of the operating crews, and a saving of \$300,000 per annum in electrical current has been demonstrated beyond doubt. By comparison of the per-car-mile cost of operation for a calendar month before the skip-stop was installed with the same cost for a like period after the installation, the company's engineers estimated a saving of 1.7 cents per car mile, or a total saving of \$1,318,000 per annum; and they estimated an ultimate saving of approximately \$100,000 per annum additional due to releasing equipment from service."

Mr. Beeler laid considerable emphasis on the location of the car stops as affecting speed. At page 1668 of the Proceedings, he says:

"The location of car stops is of prime importance. They should be so placed that a standing car will not interfere with other cars or general street traffic, and where lines branch off they should be placed so as not to block the main line. The exact location of each stopping place should always be indicated plainly by a sign, so that passengers will not delay the car movement unnecessarily by walking to the car after it has stopped. A walk of a car length adds in excess of eight seconds to the regular stopping time, reducing the car's earnings proportionately."

In discussing the various possible ways of cooperation between the public authorities and the street railways, Mr. Beeler states the advantages of the skip-stop without making any qualification as to the size of the town. At page 1668 of the Proceedings, he says:

"Another kind of team-work is the application of the skip-stop by which the practice of stopping at every street intersection is abandoned in favor of spacing the stops farther

apart and in accordance with traffic conditions. Instead of imposing a hardship on the public, the decrease in the number of stops insures a quicker journey and more comfortable riding. At the same time the reduction in starts and stops leads to a considerable saving in power. It is significant that one of the first steps of the Fuel Administration was to urge electric railways to install the skip-stop wherever practicable."

Other measures of cooperation by which the regularity and speed of street car service can be increased are suggested by Mr. Beeler at pages 1668 and 1669 of the Proceedings, where he says:

"First and by far the most important step is to secure the cooperation of the local authorities in all matters pertaining to faster operation on the streets, not by increasing the maximum speed, but by reducing delays and removing causes of congestion along the tracks.

"Loading platforms should be placed at all heavy loading and unloading points where street width permits. They concentrate passengers at the proper point ready for quick loading, reduce the height of the step into the car, save time, provide a safe, comfortable place for the patrons to stand, prevent accidents, and permit the general street traffic to proceed without delay, thus mightily relieving congestion. Few people would guess that the humble loading platform has a direct bearing on the rate of fare, but by enabling the car to make better time operating expenses are kept down. Where raised platforms are impossible the next best substitute is the so-called marked safety zone; but for efficiency, safety and comfort it does not begin to compare with the loading platform.

"Traffic officers should always give precedence to the street cars over all other classes of traffic, as they carry twenty to one by all other means. By traffic I do not mean fire departments or police patrols or ambulances, but general traffic.

"The police should assist in keeping tracks clear from trucks and other vehicles. The left-hand turn for all vehicles should be prohibited at congested intersections, such as 15th and New York Avenue in Washington or 42nd Street and 5th Avenue in New York. The rule of one-way traffic on narrow and congested streets should be enforced.

"Parking of automobiles should be regulated so that traffic will not be forced on the car tracks or otherwise interfere with the free operation of the street cars in the congested districts.

"Double berthing of street cars should be the rule in all congested locations so as to save unnecessary stops.

"The abolition of all steam railroad grade crossings is also an item of great importance to speed and safety."

The cost of power to the street railways may be reduced in various ways. The effect of the skip-stop has already been referred to. The use of lighter equipment will be discussed later on. Other possible power economies are discussed by Mr. Beeler at page 1667, where he says:

"If we go back to the power stations, frequently it is found that they are generating power at a higher cost than if the electricity for a locality were obtained from a single central generating plant that provides the whole community with power and light as well as the railway. But assuming that the railway is generating power, this branch of the business presents a fertile field for economies, among which may be mentioned the following:

"Consolidation of power plants, shutting down less efficient ones when demand permits.

"Economies in central station generation, including both the steam and electrical plant, handling of coal and ashes, and the many details that go with a generating plant.

"Purchase of part of the power if necessary.

"Reduction of distribution losses, proper feeder system, track bonding and negative return, automatic substations, etc.

"Thermostat regulation to cut out heat automatically in crowded and overwarmed cars.

"Elimination of the use of power as far as possible in shops and elsewhere during the transportation peak. Keep work and freight cars off the line at such times.

"A great field for saving is the conservation of power at the car itself. The installation of an efficient checking device will reduce excessive power consumption to a minimum. To my personal knowledge as high a saving as 25 per cent of the power used to propel the cars was effected by such a means. As the combined fuel bill of the electric railways is not far from 50 millions of dollars annually a 20 per cent saving, which could be obtained, would release a large amount of fuel which could be diverted to other essential uses."

In relation to possible savings in the generation and use of power, Mr. Walter Jackson says, at page 1593 of the Proceedings:

"A great deal has been done in making our power plants and distributing systems efficient. Very recently there has come the automatic substation which will be a boon to

interurban railways especially in cutting down the cost of attendants, in saving copper, in giving a higher voltage, which means better schedules, so that we may say that in the generating and distributing end electric railways are very efficient. It is a curious fact, however, that in the use of that power electric railways are not as efficient as they might be. Within the same schedules it is possible for motormen to show a variation of 25 to 50 per cent in the use of power. There is no way of making the motorman efficient in the use of power except first by personal instruction and then by the use of some instrument that will check the correct use of energy for a given service. Such instruments have been used abroad for a period of some fifteen years, and I would say that in Great Britain and on the Continent the majority of cars have been equipped with devices of that sort. In the United States that development has come later and today we find that not more than 20 per cent of the cars in the United States are equipped with a power checking device."

It is noteworthy that Mr. Beeler puts the number of cars equipped with a power checking device at not over five per cent of the total.

Mr. Henry G. Bradlee, of Stone & Webster, after discussing the possible savings in the cost of electric railway power through the combination of street railway and lighting plants and through the development of central power plants at the mines, concluded his discussion of this matter with the following statement, which appears at page 224 of the Proceedings:

"But the saving in power will not go very far in the street railway situation. Power, after all, is not a very large percentage of your total expense."

One of the great economies effected in Cleveland and Detroit has been the use of trailers. Discussing the fine spirit of cooperation between the city authorities and the street railway under the Tayler plan in Cleveland, Secretary Baker, at page 1033 of the Proceedings, says:

"Another conspicuous illustration of it was the reintroduction of the trailer car. Cleveland is especially adapted to the use of trailer cars, and of course it cuts the expense of operation practically in half; you can operate a car and a trailer for one and a half times the cost of operating the main car, and the car itself is not so expensive. There was a tremendous objection against trailer cars all over the United States; they were characterized as murderous things. And yet an effective and safe trailer car was used and worked with the consent of the city, and the city adopted it at once."

With respect to the advantages that would result from the standardization of equipment, Mr. Beeler speaks with great emphasis at pages 1666 and 1667, as follows:

"Because adequate allowances for replacement were not provided from earnings, many electric railways operate today with dingy, dilapidated equipment that actually repels custom. These cars are usually much heavier than necessary. They pound the track and paving to pieces, while their excessive demands for power eat up the coal pile. In operating such cars an indifferent motorman can waste readily several dollars a day for power alone. Yet only 5 per cent or less of the cars in the United States are equipped with devices to check up the motorman's skill and assist him in becoming efficient. The older, heavier cars are costly to run, and to maintain. They must be replaced by far lighter, faster and more accessible cars with full automatic equipment before the full degree of success is had.

"Standardization of equipment and a complete change in manufacturing methods must come. Cars must be turned out ready to run like automobiles, in large quantities, and at a fraction of the present costs. They must be light and attractive. Cross seats should always be employed, as comfort is a prime requisite, and to sit with one's feet in the passageway with nothing to look at but a jam of passengers gives the patron a bad impression of the management. I think one of the most important things is attractive, economical rolling stock.

* * * * *

"Two or three car types will be sufficient to meet the varying conditions throughout the country. Car trust certificates will then be attractive to the investor, especially when he knows that the car has full value on other lines.

"Where older rolling stock is in use it should be segregated by types and the service made as nearly uniform by lines or districts served as possible, so that the cars will not run hit-or-miss in heterogeneous bunches. The motor characteristics and speed should be classified with care and cars used on lines where they best fit the schedule requirements.

"I have in mind an actual illustration on a line that was about ten miles long where a dozen different types of equipment were used. Some of the cars on that line had a maximum speed of considerably over 30 miles an hour, 33 or 35 miles an hour; others had a speed of 18 miles; and they were all making the full length of the line, so you can imagine what kind of schedule economy you got on a line of that kind. They invariably ran in bunches with the slower car leading the procession.

"Often a change in the gear ratio will make faster schedules possible. All equipment should be kept clean and well painted, brilliantly lighted, and wear an inviting look.

"The use of specially constructed light-weight trailer cars in rush hours and other periods of heavy traffic has proved of immense value in augmenting the service with a minimum of expense. Such cars will aid to give more service at less cost. The light weight saves power and wear and tear."

Another mode of effecting economies is through a reduction in accident expense. The striking results obtained by the Philadelphia Rapid Transit Company in this line are stated by Mr. Joyce at page 1539, as follows:

"For the eight years ending 1910, that is, prior to the Mitten management, 6.08 per cent of the gross earnings of the company was spent for accident claims and as a result of accidents, and there was an unpaid liability not estimated involved in a total of 4,953 unsettled suits at December 31, 1910. With the introduction of modern equipment and the equipping of the cars with every known safety device a crusade was undertaken to reduce the number of accidents and particularly accidents to children. A special bureau was created under the direction of a capable young woman who soon became known throughout the city as 'Miss Safety First.' Both school authorities and the Police Department rendered cheerful and enthusiastic cooperation. A system of lectures to school children on safety devices was devised and executed and more than 100,000 children are addressed annually on safety. This young woman goes about from school to school, assembles the children in their assembly rooms and lectures to them on safety precautions. She organizes the boys into safety-first scouts, and drills them so that at the letting out of school each boy in that scout squad knows a certain point at which he is expected to station himself to protect his fellow school children in crossing the streets.

"During the eight-year period of this management the accident cost was reduced from 6.08 per cent in 1910 to 3.4 per cent of gross earnings in 1918, and the number of pending suits was decreased from 4,953 to 2,524 at December 31, 1918.

"This reduction in accident costs represents a saving of \$5,392,000. While the police reports for 1918 show an increase of 1,980 street accidents over 1911, the records of the Philadelphia Rapid Transit Company shows a decrease of 752 trolley car accidents in the same period.

"In 1911 there was one accident for every 18,640 passengers carried, while in 1918 the ratio was one accident to every 41,622.

"The crusade against accidents amongst children during the past four years resulted in a showing of 32 fewer deaths from accident to children as compared with the preceding four years."

At pages 1539 and 1540 of the Proceedings, Mr. Joyce explains the Philadelphia Rapid Transit Company's fire insurance policy, by which large savings are now being effected. He says:

"Under the head of Fire Insurance I have a memorandum to note that the company in 1910 carried \$18,500,000 of fire insurance at a premium of 50 cents per hundred. Adequate and effective inspection has reduced this cost to 25 cents per hundred and in this way a saving of \$25,000 per annum net after paying the cost of inspection was accomplished and many collateral benefits derived from the regular and careful inspection of the property. From 1911 to 1918 over \$600,000 was paid in premiums to insurance companies, and the company received in return less than \$60,000 for fire losses.

"At December 31, 1918, the company assumed 33 per cent of its fire risk. A careful survey of the property demonstrated that the greatest possible loss that could be sustained in one fire would not exceed \$250,000. The insurance fund discontinued in 1910 to aid the company in meeting obligations has been reestablished with assets of over a million dollars."

In response to questions by Commissioner Wehle, Mr. Joyce stated that the subject of freight-carrying by street railways was being carefully studied by the Philadelphia Rapid Transit Company as a possible source of additional revenue.

With respect to other methods of developing revenues or effecting economies, the following testimony is found at pages 1565 and 1566 of the Proceedings:

"Commissioner Wehle: Are there any other sources of saving or of effectualization for the Philadelphia system which are in the minds of the management and which it is the intention of the management to develop?

"Mr. Joyce: They are almost without end, Mr. Commissioner. We have a corps of men who do nothing else but study the probabilities of economies and coordination to the end of serving the public better, at a lower cost, rearrangement of schedules, rearrangement even of the offices, rearrangement of the departments, the location of the offices at convenient points, and the arrangement of the machinery in our shops, the arrangement of the repair bays in our barns; and all of those things and many others that I cannot enumerate are the subject of constant study, and the day hardly passes that something new is not done in the way of improvement.

"We have just recently, by a rearrangement of the offices on the subway-elevated, effected a saving of time of twenty people, and were able to drop that many people from the payroll without any appreciable change in the service to the public, and with, in many cases, an improvement in that service.

"Conditions change from day to day, and a schedule of duty assignments that will obtain today may not fit the conditions at all six months from today. The time of reporting on duty and off duty for certain people, to relieve stress at certain times, such as we have in the system of collection of fares on the subway-elevated, changes from year to year.

"Commissioner Wehle: But those are really improvements in efficiency, generally speaking, are they not, that you now refer to?

"Mr. Joyce: Yes.

"Commissioner Wehle: Efficiency in office management or something of that sort?

"Mr. Joyce: Efficiency in management in the broad sense."

Mr. Beeler ought to be a welcome visitor at any electric railway office. He is fertile in suggestions for economies. In addition to those previously discussed at some length, he mentions at page 1668 of the Proceedings, the following:

"Considerable might be said on the methods of organization, telephone dispatching, the operation and location of division headquarters, methods of accounting, fare collection and registration, use and abuse of transfers, prepayment areas, reduction of non-productive miles to and from car houses, advantages of good track, spiraled curves, smooth special work, effects of corrugation, bad joints, poor drainage, excessive use of sand, methods of greasing curves, accident prevention, and scores of other equally important items all having a direct influence on the operations and expenses."

Interstate Commerce Commissioner Eastman summarized the opportunities that exist for improving service "in ways that will result in substantial economy and also add to traffic and revenues." At page 2067 of the Proceedings, he says:

"I think there are very great opportunities, or at least very substantial opportunities, which exist in that respect. * * * I can summarize at the present time, simply by saying that they consist, first, of means of conserving labor by increasing the mileage of the cars per hour, in various ways, such as the skip-stop plan, improved motors, better acceleration and deceleration, decrease in the number of layovers, and all those various means of making the car do more work in a given hour, and thus conserving labor.

"Second, by the introduction of trailers, which are really one-man cars, and conserve labor in that way; by the introduction of one-man cars of proper type, which we laid a great deal of emphasis upon in the Public Service Commission of Massachusetts; and by properly located and equipped car houses and shops. Those are all means of conserving labor. Then you have means of conserving power, by lighter cars, by adequate feeders and by various power-measuring devices, which help the motorman to use power more economically.

"Then you have means of conserving property, and these, I think, are very important, by proper maintenance of tracks and cars. So long as you have properties where the cars are bumping along over poor joints and poor rail, and where the cars themselves are in poor condition, you not only increase the expense of operation and the necessity for repairs, but, at the same time, you decrease the respect for property on the part of the public. Nobody can be very friendly to a property which is giving poor service and does not look as though it were in good condition; that looks as though it were nearing the end of its existence.

"In the final place, there are means of conserving revenue, such as various fare registration devices, fare boxes and reduction in the misuse of transfers."

This brings us squarely to the matter of the possible revolution in operating methods that would result from the general adoption of the one-man safety car, and the more radical revolution suggested by Henry Ford's proposed change in street railway motive power from electricity to gasoline or alcohol.

Mr. Charles W. Kellogg, of the Stone and Webster organization and Chairman of the Committee on One-Man Car Operation of the American Electric Railway Transportation and Traffic Association, described to the Commission the characteristics and advantages of the one-man safety car. His testimony is found at pages 730 to 750 of the Proceedings, where he gives in considerable detail the results of the investigation conducted by the committee through questionnaires sent out to the companies known to be operating one-man cars, either of the modern safety type or of the made-over type. The results of this investigation were also embodied in a report presented by the committee at the Atlantic City Convention of the American Electric Railway Association in October, 1919, copies of which were filed with the Commission.¹ Mr. Kellogg's testimony starts off with what seems like a very severe indictment of the management of the entire electric railway industry during the period of ten years or so immediately preceding the war. It might be paraphrased and condensed into this three-word sentence: "Monopoly fell asleep." At pages 730 and 731 of the Proceedings, Mr. Kellogg says:

"About ten or fifteen years ago, or, perhaps, as long as fifteen years ago, there was a perfect mania among street railway companies for heavy street cars, Pullman cars.

"The Chairman: Why?

"Mr. Kellogg: It was felt that they were more dignified; they rode smoother on relatively poor track, and therefore would attract traffic; and anyone who has studied the situation and remembers the conditions in those days will know that even a small town that did not have large, heavy double-truck cars was considered rather out of the running.

"It was not until after all of the city systems were equipped with these very heavy cars, weighing around 50,000 pounds—some of them even heavier—that the industry woke up to the fact that an enormous unnecessary weight was being dragged around the streets, that they meant excessive investment, a corresponding heavy track, and an expensive construction to carry these big cars. It meant correspondingly more power station capacity to move them, including in that also substations, cables, etc., and correspondingly higher maintenance costs, both of the cars themselves and for the track they ran over to keep the service going.

"The Chairman: Would you say that these large cars were urged by the car manufacturers?

"Mr. Kellogg: I should say not, although I am not able to pass on that point. At all events, the street railways were willing customers.

"It was not until after this effect had occurred—I think that is a fair statement—until it had practically fully occurred, that the results were realized by the industry."

Mr. Kellogg's committee puts the case somewhat more mildly in the introductory paragraphs of its report, where it describes the origin and development of the modern one-man safety car, as follows:

"The operation of street cars by one trainman in small communities where small gross per car mile demanded the utmost economy in operating expenses, is not a new idea in the street railway business, the practice having been followed for years by many of the smaller companies; but the modern light safety car represents a radical improvement in the whole art of urban transportation and, therefore, will be the principal topic discussed in our report.

"It is interesting to consider the evolution of the safety car. Some years ago, when a franchise providing a 5-cent fare was considered an important asset of a street railway company, heavy cars were deemed necessary for city service. It was felt that a heavy car rode more smoothly and would attract patronage correspondingly, so that car weights of 50,000 to 55,000 lbs. and even heavier were the rule rather than the exception for up-to-date city systems. These heavy cars required, of course, a corresponding investment in massive track construction to carry them and in power stations and substations to move them, and a corre-

sponding operating cost for track and car maintenance and fuel to keep them in service. Troubles have come thick and fast since then. First, the waning popularity of the street car, due to the fast multiplying automobile (recent figures show that there are today in this country 75 automobiles for every street car) and second, five years ago, the jitney competition, followed, due to the war, by the sharp rise in prices of labor and material.

"The jitney was what produced the Light Safety Car. The popularity of the jitney proved beyond a possibility of doubt that frequent, quick service would get passenger business away from the slow and infrequent street car, and it was up to the street railway industry to develop light cars that would simulate jitney service. Following this idea, Mr. Charles O. Birney designed the car that now bears his name. It was realized that the car must be light in order to accelerate quickly and that it must be operated with one man in order to compete with the jitney which was similarly manned. The safety devices followed from the realization that the public would not patronize the car unless it was convinced that it took no more chances of doing so than with the two-man car.

"The design of the new car, weighing only 15,500 pounds and seating 32 people, had to be from the bottom up—wheels, axles, truck, body and motors were all radical departures from previous practice and the automatic safety features alone were a triumph of adaptation to the compelling forces which led to the development of the new car. These safety devices consisted, in general, of ways to make the operation safe in case the operator dropped dead, or slackened in attention. The 'dead man's handle' required that the operator have his hand constantly on the controller or it would throw the power off. Similarly, if the power were so thrown off, the brakes were automatically applied and sand fed to the track, and, when the car came to a stop, the doors, previously held securely closed by air pressure, are made available for manual operation to form emergency exits if desired."

From the above it may be gathered that the purpose of the one-man safety car is to reduce the cost of service and to make possible an increase in the amount of service where there is enough potential traffic to make additional service pay. In brief, the safety car attacks the street railway problem at both ends—by reducing cost and by developing traffic. This car suggests great possibilities; but as a potential remedy for the existing troubles of the electric railway industry it will have to pass certain tests. First, from the point of view of the service now being rendered by the electric railways, can the one-man car do the entire job everywhere and under all conditions? If not, can it, either as the principal type of street railway equipment or as an auxiliary type, do the job under all those conditions where street railway service is necessary but is now being operated at a loss? Second, if the one-man safety car is capable of furnishing the service, either universally or in all places where the service is now unprofitable, what reduction can it effect in the cost of the service? Third, if this car is capable of furnishing the required service, what can it do in stimulating traffic and increasing the gross revenues of the street railways? Fourth, if the one-man safety car does not offer a complete and universal remedy for the present difficulties of the electric railway industry where a remedy is needed, how will it fit in with other proposed remedies to be applied at the same time?

Can the one-man safety car do the entire job? Obviously, it cannot do the work of elevated and subway lines where extreme density of traffic makes rapid transit train operation necessary. Therefore, to begin with, we have to restrict the use of the new car as a remedy to the surface lines. Furthermore, it does not appear that this car is adapted to high speed interurban transportation. While it may be used for service between adjacent urban communities, a single-truck car cannot well be operated at the high speed usually attained by a "regular interurban" which Mr. Kellogg describes at page 746 of the Proceedings, as follows:

"An interurban generally means a pretty high-class road with a private right of way, good track, well-ballasted and high-speed cars, very different from city service."

It seems clear that the one-man safety car is adapted for "city" rather than "interurban" service, as described by Mr. Kellogg. Furthermore, there is still considerable uncertainty as to the adaptability of the one-man safety car for exclusive service in the congested streets of a great city, particularly where the traffic load is heavy. For example, General Tripp, Chairman of the Committee of One Hundred of the American Electric Railway Association, after stating that he did not look for the cutting down of the cost of service to any great extent, was asked what he thought about the adaptability of the one-man car for operation on the New York City surface lines. His testimony on this point is found at pages 170 and 171 of the Proceedings, as follows:

"Commissioner Meeker: In regard to the New York City situation, would it be at all feasible, do you think, to adopt perhaps the one-man car for the surface lines, some of the surface lines that are competing with the long-haul subway and elevated lines?"

"Mr. Tripp: I should think in New York City it would be about the worst place that you could operate a one-man car. At rush hours a one-man car simply could not handle some of the traffic, particularly on the downtown crosstown lines leading to Brooklyn Bridge and to the various ferries and Hudson tubes.

"Commissioner Meeker: Pardon me, may I interrupt there? I was speaking of the lines that are running in competition with the elevated and the subway lines, the north and south lines in general, and may I add here, would it be possible to run them at frequent enough intervals merely for local traffic under a zone system so that it might relieve the elevated and subway lines and might perhaps contribute towards the solution of the transportation problem?"

"Mr. Tripp: My judgment would be that it would not, generally speaking. The cars are already operated on the principal longitudinal lines about as closely as they ought to run in rush hours and they could not get them any closer. And, of course, a car that seats forty or fifty people will carry more than a one-man car."

Further on, at page 171 of the Proceedings, General Tripp continues his testimony with respect to the one-man car:

"A one-man car under my theory should be considered only from the standpoint of its economy, looked at from the standpoint of the public. Will it properly serve the public, is it all they require, and if it is a satisfactory service it is a cheaper service and the public ought to get its service as cheap as it can. But it is not a cure, nor is it fundamentally proper to attempt as a step in the solution of this problem to force a one-man car into a situation that economically requires a larger car. It is forcing an economy at the expense of the public, because the whole situation is set up on an erroneous foundation."

Nevertheless, two hundred of the one-man safety cars have recently been put in use on the surface lines of Brooklyn, and it seems to be the general consensus of opinion among the advocates of the safety car that it is adapted to much heavier traffic lines than was at first supposed. The evidence shows that these cars have been used successfully on heavy traffic lines in Dallas, Houston, Fort Worth, Bridgeport, Seattle and Kansas City, Mo. However, it is still undoubtedly the prevailing opinion that the one-man safety car is less well adapted than existing equipment to traffic conditions such as prevail on the principal car lines of cities like Cleveland and Detroit where trailers have proven their value.

A kindred problem presents itself in the matter of the adaptability of the one-man safety car to rush hour and peak load service. Obviously, where the existing equipment of the large type is loaded to capacity, the smaller safety cars could not handle the traffic on the same schedules; and if at the present time as many large cars are being moved during the rush hours as the tracks will accommodate, the smaller safety cars would be less well adapted to the service than is the present equipment. Mr. Kellogg, in his testimony, suggested that where the

traffic is too heavy over the peak for the Birney cars, the old heavy cars can be brought out and operated as auxiliaries to the safety equipment. Wherever this is necessary, it means that a negative answer must be given to the question here under discussion, namely, can the safety car do the entire job?

Another question with respect to the adaptability of the small safety cars applies to the conditions of ice and snow that often prevail during short periods of the winter in most northern cities. Here, again, Mr. Kellogg suggested that the heavier two-man equipment might be called out in an emergency to fight the adverse weather conditions, but it is clear that if a street railway company has to keep a complete complement of heavy two-man cars on hand to take the place of the Birney cars during snow storms or during the rush hours, this involves a tremendous offset to any possible advantages derived from the use of the Birney cars at other times. Mr. Kellogg freely admits, at page 744 of the Proceedings, in answer to questions from Commissioner Sweet, that the Birney car is better adapted to the cities in the southern part of the country and on the Pacific coast where there is very little snow, than to cities in the extreme north; but, if necessary, the snow-fighting can be done by special snow-fighting equipment. He also admits that a great deal more time must elapse before a real test of these one-man safety cars can be made. At pages 744 and 745 of the Proceedings, the following questions and answers appear:

"Commissioner Sweet: Before a real test can be made of these cars, don't you think that a great deal more time must elapse so that the public taste with regard to the matter may be better determined?"

"Mr. Kellogg: That is perfectly true. It is a new thing.

"Commissioner Sweet: So that it would be stretching the point somewhat, do you not think, for the Commission to make any particular recommendation with regard to these cars?"

"Mr. Kellogg: Oh, I think for the Commission to hang anything definite on as relatively new a proposition as this, especially with its limited application, would be very dangerous."

Further on, however, in response to questions by Chairman Elmquist, Mr. Kellogg reiterated his belief that the safety car has important benefits for the public, for the companies and for the trainmen. After this the following testimony appears at page 748 of the Proceedings:

"The Chairman: That being so, why is it not a very good thing to advocate the use of the one-man car just as much as possible?"

"Mr. Kellogg: I think it is a good thing.

"The Chairman: If it is a good thing for the companies as well as for the public—

"Mr. Kellogg: And for the trainmen.

"The Chairman: And for the trainmen, why should it not be a good thing for this Commission to advocate the use of such a car?"

"Mr. Kellogg: I think they should advocate it wherever it can be used to advantage."

Still further on, after stating that a number of companies might be financially able to buy the new equipment, but that "most street car companies are nearly broke now," Mr. Kellogg, at page 749 of the Proceedings, testifies as follows:

"The Chairman: Is it not true that these replacements must be very gradual if at all, on account of the financial condition of the companies?"

"Mr. Kellogg: Yes, and even if they had the money they would have to go at it gently, one line at a time.

"The Chairman: Then the one-man car is not an expedient that can remedy the present situation?"

"Mr. Kellogg: No. As I said this afternoon, it is not a panacea, it is not something that you simply fill in a blank check and say that is all there is to it. It is a great help in some cases."

Mr. C. L. S. Tingley, of the American Railways Company, raised a doubt as to the adaptability of the one-man car to operation on heavy grades, but this point was not touched upon by Mr. Kellogg in his testimony, or by Mr. Kellogg's Committee in its report. With respect to operation at grade crossings, the Committee made particular inquiry with results which are stated by Mr. Kellogg at page 739 of the Proceedings, as follows:

"One point we asked particularly about was that of flagging railroad crossings. You gentlemen of course realize that it has been the practice from time immemorial in the street railway business when a street car approaches a railroad crossing for the conductor, after the car has been stopped, to get off and go ahead of the car onto the crossing, look up and down the track and signal the car to come across. With the Birney car that practice is impossible, in fact it would be dangerous for the trainman to leave the car and go onto the railroad crossing. So the method of flagging is simply to stop the car, for the operator to look up and down the track and if all is clear to proceed. There is some difference of opinion as to the safety of that. Personally, I do not think with a normal railroad crossing where the view is unobstructed that that method of flagging is any more dangerous than the old-fashioned method. But wherever a complicated set of tracks are crossed it is necessary with the Birney cars to maintain a flagman who can actually be there at all times. Of course, to such an extent, whatever that amounts to, it tends to offset the saving in expense in the use of these cars."

From the discussion thus far it is perfectly clear that the one-man safety car cannot perform all the work of local transportation now required of the electric railways. This is true even if we exclude rapid transit and interurban service. Mr. Kellogg's Committee in its report stated that the number of light safety cars in operation up to October, 1919, was about 1100, and that 600 more were under order and in process of manufacture. In addition to these, about 900 other one-man cars of different types were at that time in use in the United States. In the issue of April 10, 1920, the Electric Railway Journal places the number of safety cars to be built during the year 1920 at from 3,000 to 4,000. The number ordered during January and February was 545. Mr. Homer Loring, Chairman of the Board of Public Trustees operating the Eastern Massachusetts Street Railway Company, told the Commission that 200 of the safety cars had been ordered for the Bay State lines, the first of the cars to be delivered in October. With respect to them he says at page 1650:

"We hope to save some operating expense; but much oftener we hope to increase our frequency of service and give better service at the same expense. That is what we are really hoping to gain."

In a letter dated March 15, 1920, Mr. Loring states that about 100 of the safety cars have been delivered, but that "none have been put in operation because of the very bad track conditions, due to snow and ice."

While it is not possible, from the testimony and the data submitted to the Commission, to determine what proportion of all electric railway service the Birney car could be depended on to supply successfully, the evidence shows great advantages to be derived from the use of this car under favorable conditions. The possible savings to be effected apply principally to platform expense, power consumption, accident expense, car and track maintenance, and, ultimately, the capital account. Platform expense is saved in two ways: first, by the elimination of the conductor, and second, by the speeding up of the cars. It is customary to pay the operator of a one-man car a higher wage than is paid to either the motor-

man or the conductor of a two-man car. The difference averages about ten per cent, ranging all the way from one cent to ten cents per hour. The operator of a one-man car is a busy man, and needs to combine the qualifications of motor-man and conductor. Mr. Kellogg's committee found that on the average the differential in his favor was about four cents an hour; but in my opinion, the ultimate differential will probably be much larger—perhaps, as much as ten cents per hour. The average speed of the safety car appears to be from ten to twenty-five per cent greater than the speed of the heavy two-man equipment. This results in a better utilization of labor, which tends to offset the effect of the higher wage rate so as to bring the saving in platform expense, on a car-hour basis, back to the full 50 per cent that would be expected from a reduction of one-half in the number of employes. The greater average speed attained by the safety cars is accounted for by faster acceleration in starting and faster deceleration in stopping and perhaps to a slight degree by the fewer stops resulting from the smaller average passenger load.

The power saving results from the light weight of the car, and averages about 50 per cent. The saving in accidents is less uniform, but is due, where it occurs, to the safety appliances from which the safety car gets its name. It is believed that a considerable saving in car maintenance per car mile will be a permanent result of the use of the lighter equipment, but the safety car is still new and its many devices have not yet had time to get out of repair. With respect to track maintenance, there is even better reason to expect a saving as the result of the use of light-weight cars, particularly in those cases where this type of equipment is used exclusively. After a while, the effect will undoubtedly be seen in the capital account, as the light cars will permit of lighter track construction and reduced power plant capacity. Moreover, the cars themselves represent a much smaller capital investment per seat than the big two-man cars do. It will take a good while, undoubtedly, to work off the obsolete investment due to the big-car policy of the past, but once that is done the total investment necessary on a system completely equipped with light one-man safety cars will be much less than has been found necessary where the heavy cars are used.

It can readily be seen that the economies normally resulting from the use of the light one-man safety cars, if they could be realized to the full extent without a diminution of gross earnings per car mile, might easily make all the difference between bankruptcy and prosperity in the street railway business. Unfortunately, there is the peak load of the rush hours which usually taxes the old-type cars, no matter how big they are, to their capacity. As a rule, the rush-hour service cannot be cut down, which means that, if smaller cars are used, it will be necessary to run more of them to take care of the peak. However, it does not mean that the car miles run must be doubled, as the capacity of the safety cars is much more than half the capacity of the two-men cars in most cases. So far as seats are concerned the ratio will generally be as 32 is to 42 or to 44, though in some cases the seating capacity of the old cars runs considerably higher. If more of the small cars are required for the rush hour, the saving in operating expenses

is greatly reduced even though the extra number of small cars is not run during the rest of the day. This is the "fly in the ointment" from the point of view of operating economies. But here comes in the opportunity to increase revenues by increasing service. The safety car is said to have been invented to meet the competition of the jitney. Therefore, it is logical that the larger number of units required to handle the peak load of traffic should be operated throughout the day for the purpose of furnishing better service and stimulating traffic. In fact, the car is often called the "frequent-service" car in order to emphasize its advantages to the public. Mr. Kellogg explains, at pages 737 and 738 of the Proceedings, the financial results of safety car operation under conditions that are just right. He says:

"Now, on the matter of earnings, of course these reports on earnings refer to the most successful lines where the conditions were exactly right for the use of these cars, and the most successful lines showed a slight decrease in gross per car mile, from 21.11 cents to 20.65 cents, with this increase in car miles operated of 53.4 per cent and an increase in gross earnings of 51 per cent. In other words, where the conditions are just right for the use of these cars their benefit comes from taking the saving in operating expense, that is in power and platform time, and spending that money on additional service.

"Now, I want to explain right here, so that the Commission will realize the limitations of this Birney car, that the only place where it can accomplish its best results is where the schedule initially is such that more people will ride if cars come more frequently. * * * * Now, the other cases would be a very light traffic in a small city where if you had a car every 30 seconds you would get no more people, because no more are there to ride—there the car would save nothing but platform expense and fuel—or in a very dense traffic where cars were frequent enough to be in sight, you might say, most of the time. The Birney car would add nothing there to the amount of traffic. So its most useful field is in cases where the traffic on a line can be increased if the frequency is furnished, and that represents the maximum effective use of these cars."

Based upon these returns from the six companies which had been most successful in the use of the safety cars, Mr. Kellogg's committee in its report worked out a mathematical demonstration calculated to make cheerful reading for street railway managers looking for some solution of their troubles other than higher fares or public subsidies. The committee says:

"In order to indicate clearly the effect to be expected, from the results *already actually obtained* by street railway companies, from the use of safety cars, the following typical example has been worked out."

The committee then assumes the case of a double-track line four miles in length upon which, under present conditions, six two-man cars are being operated at an average speed of 8 miles per hour on a 10-minute headway, with gross earnings of 25 cents per car mile from the 5-cent fare. It figures out that with 9 safety cars making a speed of 9 miles per hour, the headway could be reduced to 6 minutes and the service, in terms of car miles run, would be increased $66\frac{2}{3}$ per cent, with car mile earnings of 24 cents. The committee states that the safety cars can be bought on the basis of 25 per cent cash down and the balance of the price payable in monthly instalments with interest at seven per cent on deferred payments covering a period of five years. The indicated results are certainly very cheerful. The comparative earnings will be as follows:

Old conditions, 315,210 car miles per year at 25c, equals.....	\$78,802.50
New conditions, 525,350 car miles per year at 24c, equals.....	126,084.00
Increase in gross earnings.....	47,281.50

The effect of the safety cars upon annual expenses is estimated as follows:

<i>Increased Cost</i>		
One-fifth of purchase price of 9 cars at \$6,000 apiece.....	\$10,800.00	
Average yearly interest on deferred payments, 9 cars.....	1,530.00	\$12,330.00
Car maintenance, old conditions, 3c. x 315,210 (car miles)....	\$9,456.30	
Car maintenance, new conditions, 2.1c. x 525,350 (car miles) ..	11,032.35	
Increase in annual car maintenance expense.....		\$1,576.05
		<u>\$13,906.05</u>
<i>Savings in Expense</i>		
Power, under old conditions: 315,210 (car miles) x 3 kwh. equals 945,630 kwh.		
Power, under new conditions: 525,350 (car miles) x 1.5 kwh. equals 788,025 kwh.		
Decrease in power used, 157,605 kwh. Saving, at 0.8c. per kwh. for fuel.....		\$1,260.84
Trainmen's wages, under old conditions: 12—18 hour men at 45c, equals.....	\$97.20	
Trainmen's wages, under new conditions: 9—18 hour men at 50c, equals.....	81.00	
Saving per day	\$16.20	
Saving per annum 365 x \$16.20, equals.....		5,913.00
Accidents under old conditions, 5% of \$78,792.50, equals.....	3,939.63	
Accidents under new conditions, 2½% of \$126,084.00, equals..	3,152.10	
Saving per annum		787.53
Total savings		<u>7,961.37</u>
Total increase in expenses		13,906.05
Net increase in expenses		5,944.68
Increase in gross earnings		47,281.50
Increase in net earnings		<u>\$41,336.82</u>
Increase in net earnings per mile of single track.....		5,187.10

This is the equivalent of 6 per cent upon an investment of \$86,452 per mile of single track, although the committee uses the figure \$76,500.

These results, compared with the income statements usually put forward nowadays by the electric railway companies in which they commonly see red at the end, excite admiration as a proof of the versatility of thought that subdues mathematics with equal skill to the service of pessimism or to the service of optimism according to the occasion and the motive. It must be borne in mind that these figures are given out by Mr. Kellogg's committee as typical of results "already actually obtained" by street railway companies from the use of safety cars. They suggest as an appropriate answer to a street railway plea for an increase of fares on a system adapted to one-man car operation, the injunction: "Go thou and do likewise."

The conclusions of Mr. Kellogg's committee are as follows:

- "1. The Safety Car is one of the most important improvements in street railway service that has appeared for many years. Its valuable features in the order of their importance are:
 - (a) Greatly improved service to the public, both as to frequency and safety.
 - (b) Increased earnings for the company.
 - (c) Decreased operating expenses.
- "2. One-man operation alone, while useful in saving platform expense, in the smaller communities is not comparable with the improved service that can be obtained with the Light Weight Safety Car with its more frequent headway and greater average speed.
- "3. The savings obtainable from One-Man Cars should be shared with the trainmen

in the form of a higher hourly rate for the operators of such cars than is paid to the trainmen on two-man cars.

"4. When inaugurating One-Man Car service, it is good policy to assure the trainmen that no one will lose his job due to putting in the new cars. They are installed, as a rule, a line at a time, and experience has proved that the company is not burdened with extra men through this policy.

"5. From the nature of the traffic available, the Safety Cars can accomplish more in a larger city than in a small one, for the reason that the possibilities of increasing riding in the small community are limited. This statement is made to correct the erroneous impression existing in some minds that the Safety Car is useful only for saving expense in the smaller cities.

"6. Where traffic is believed to be too heavy on peak to be successfully handled by Safety Cars, the larger, heavy cars may be used for tripper service on peak, thus making the light cars handle the long-hour runs.

"7. Similarly, where snow storms require the use of the heavier equipment at rare intervals, the Safety Cars can still be used to advantage during other times.

"8. The Safety Car, though light, is just as substantial and with the same care in maintenance should last just as long as the former types of car. It has a steel frame and thoroughly modern, ventilated interpole motors.

"9. Regarding the matter of standardization, your Committee was not unanimous, but the majority opinion favored adhering to the present standard design of the Safety Car in the interest of cheaper costs through quantity production.

"10. Experience has shown that the overwhelming majority of both riding public and trainmen favor the One-Man Safety Car; that it can, at one and the same time, improve the public's service, increase the trainmen's wages and raise the company's profits; that it can be purchased without financing and operated for about half the cost of an ordinary car; and that most of the companies that have tried it want more. We predict an increasingly rapid extension of the use of a device that can make a showing like the above."

It makes one rub his eyes to be sure he is seeing straight when a responsible committee of the organized electric railway industry makes such a promising report at a time like this. Still, from considerations already discussed, we cannot accept the theory that the one-man safety car is to be everywhere the salvation of the industry, and accordingly we must inquire as to how this particular remedy will fit in with others that have been or may be suggested. Obviously, there is nothing in one-man car operation inconsistent with the relief of the electric railways from excessive tax burdens and other public obligations where they exist. It is agreed, however, that the one-man car is not well adapted to a distance tariff or a complex zone plan. One-man operation can readily be arranged for two zones by the adoption of a combination of the pay-enter and the pay-exit methods, but beyond two zones the problem of fare collections is likely to be too complicated for the motorman-conductor. In this connection it should not be forgotten that in the British cities, where the zone system has long been successfully applied, two-man operation is the rule.

The next question relates to the compatibility of one-man car operation with straight fare increases above the 5-cent rate. Anything that complicates fare collection, as for instance the odd 6-cent, 7-cent or 8-cent fare, makes one-man operation more difficult. Moreover, where the light safety car is to be used to beat the jitney or to cultivate potential short-haul traffic, high fares must necessarily neutralize to some extent at least the allurements of more frequent service. The potential short-haul rider naturally responds to two inducements—convenience and cheapness. He will walk if he has to wait too long for a car; also, if he has to pay too much for a ride. And so, while one-man car operation cannot be said to be theoretically and necessarily inconsistent with fare increases, it would appear as a matter of transportation psychology that to attempt simultaneously to attract a larger number of riders by more frequent service while

at the same time compelling each rider to pay a higher fare, no matter how short his ride, would be more or less futile. Fare increases and safety car service are likely to work against each other, although the testimony and available records do not throw much light on this point from actual experience.

Most of the street railway men who appeared before the Commission whose attention was called to Henry Ford's scheme for substituting gasoline for electricity as a motive power on street railways were quite skeptical about it. In the present state of Mr. Ford's experiments, so far as the public knows about them, a state of mild skepticism seems to be justified. It is clear that the coming of the Ford gas car would bring the electric railway business to its Judgment Day, sure enough. The street railway power stations, transmission lines and overhead and underground electrical equipment would all go to the scrap heap along with the old cars and motors. The Henry Ford car as promised is a light car, but not so light as the safety car. It may become in the near future a tremendous factor in revolutionizing the street railway business, but at the present time it is no factor at all except possibly a psychological one. The industry will either have to wait or else go on without it.

So much is involved in the release of street railway companies from their franchise contracts, and the policy of higher fares or of subsidies is so perilous in many ways, that everybody concerned ought to seek to solve the financial problem of street railway operation by the application of the principles of good management, if possible. Therefore, it would seem that before fare increases are granted or new contractual relations between the public and the companies are established a board of experts ought to be appointed in each particular case to hold an inquisition on the management for the purpose of determining what possibilities there may be in operating economies and efficient methods of conducting and developing the business.

There can be no doubt whatever, from the testimony presented to the Commission, that substantial economies could be effected on a great many street railway systems without any curtailment of the net value of the service rendered to the public. No doubt, re-routing, changes in car schedules, the introduction of the one-man car, and other possible changes in operating methods may in certain minor respects and in spots adversely affect the quantity or the quality of service now rendered. Such a result is inevitable with any rearrangement of methods. While it is as true now as it ever was that good service and plenty of it is, from the public point of view, the desideratum of street railway operation, there is no sufficient reason for continuing extravagant and wasteful service. During the war, and even during this reconstruction period, it is obviously advantageous for the public to be thrifty and somewhat conservative in its demands where thrift and conservatism are an essential means of escaping radical fare increases. Still, from the public point of view, it would be a mistake to press the matter of economies in operation to an extreme, or to insist upon electric railway companies abandoning old methods, and immediately scrapping all their existing equipment in order to take advantage of a new type of cars or new methods of operation that have not yet been fully proven by experience. In other words, it is important that the street railway industry should learn a lesson from its experience at the

time of electrification when undue optimism with respect to possible future economies, without any immediate or adequate provision for writing off the superseded equipment, was to a considerable extent responsible for the bad financial condition into which the business fell.

In view of the public interest in electric railway service and electric railway prosperity, and particularly in view of the effect of public regulation in one form or another upon the expenses and profits of the business, it is quite essential that the operating companies should get "outside advice" with respect to all major changes in equipment, economies in operation and readjustments of service. Some of this outside advice can be furnished by the state utility commissions, but too often the commissions feel themselves pretty closely restricted to a consideration of the financial needs of the companies. As the cooperation of the riding public and its local representatives is essential to street railway success, it is desirable that the outside advice should include any constructive help which the municipalities may be in a position to give.

An illustration of the doubtful ultimate results of operating methods and economies which, from the point of view of the company, may for the time being appear to be very beneficial, is found in the attitude of Philadelphia toward the Philadelphia Rapid Transit Company. Under date of October 16, 1919, the company submitted certain proposals to the City of Philadelphia for the lease of the new municipal elevated railway now under construction, and for an amendment of the settlement contract of 1907 under which the surface lines are being operated. The company proposed to abolish the three-cent exchange tickets and to substitute free transfers except within the central business district of the city, where neither exchange tickets nor free transfers would be accepted. In consideration of the relinquishment of the exchange ticket revenue, the company asked the city for relief from the cash payments which it now makes under the 1907 contract in lieu of paving, snow removal, car licenses and other franchise obligations which were commuted in 1907, and for relief from the tax on dividends of subsidiary companies and from payments to the city sinking fund for the ultimate amortization of the company's investment as a step toward municipal ownership in the future. Under date of November 14, 1919, Mr. William S. Twining, formerly chief engineer of the Philadelphia Rapid Transit Company, and during the past four years Director of the Department of City Transit of the City of Philadelphia, submitted to the municipal legislative body a report on the company's proposals. In this report, in connection with his discussion of the particular points at issue, he referred at some length to the statements made on behalf of Mr. Mitten to the Federal Electric Railways Commission with respect to the results of the Philadelphia cooperative plan and the economies effected thereunder. It is impracticable in our present discussion to present Mr. Twining's criticisms of the Mitten management in full, but a few quotations will suffice to indicate the attitude of the responsible head of the city transit department toward the much-vaunted economies by which the Philadelphia Rapid Transit Company has been enabled to maintain the five-cent fare. The burden of Mr. Twining's argument is that the company in its effort to maintain its existing capitalization without abandoning the five-cent fare has made inadequate provision for the service of the

public. At page 19 of his report, Mr. Twining states that while the company's gross earnings for 1919 showed an increase of approximately 46 per cent over the year ended June 30, 1913, the increase in passenger car miles was less than 5 per cent. At page 21 of his report, he makes the following statements with respect to the loading of the company's cars:

"A traffic count of the loading of the company's cars taken during the Christmas rush of 1910 showed that of the passengers carried out of the central business district 45 per cent were required to stand. A similar count in October of 1919, shows that 40 per cent of the riders stood. This percentage will, of course, be increased during the Christmas rush of the present year. Rush-hour loading conditions therefore are little better now than during the heaviest period of 1910, when conditions were notoriously deplorable. The large number of passengers who are required to stand during the non-rush hours of the day is a noticeable feature of present loading conditions.

"A comparison of loading conditions in 1915 and 1919 shows that the company is now carrying 44.7 per cent more passengers out of the business district during the maximum evening rush hour with only 14.5 per cent more seats. The result is that while 24.5 per cent of the riders were required to stand in 1915, 40.1 per cent were required to stand in October, 1919."

With respect to the effect of existing capitalization upon the Company's finances, Mr. Twining, at page 7 of his report, says:

"The future of the Philadelphia Rapid Transit Company is continuously threatened because of the deplorable condition of overcapitalization which exists. This condition has existed at all times during the history of the system and results from the watering of securities and the paying out in excessive dividends those funds which should have been used to provide for amortization and the depreciation and obsolescence of the property. Although the originally overcapitalized property has been allowed to depreciate and disappear, it is still represented in the Philadelphia Rapid Transit Company's fixed charges and must be satisfied before the payment of any dividends to the Philadelphia Rapid Transit Company stockholders."

It will be remembered that a service-at-cost contract entered into by the City of Philadelphia and the Philadelphia Rapid Transit Company early in 1918, which, among other things, provided for the operation of the City's rapid transit lines now under construction, was finally disapproved by the Public Service Commission of Pennsylvania largely because it perpetuated as a fixed expense of transit service in Philadelphia the extraordinary rentals now being paid to a multitude of underlying leased lines. Mr. Twining in discussing "The Effect of Dead Capital on the Fare" makes the following statement at page 39 of his report:

"All capital invested in obsolete or superseded apparatus or equipment should be amortized and only such money as is now active in the carrying on of the business should be entitled to draw interest on dividends. In other words, dead capital, like the superseded equipment, should not burden a public utility business and hamper the working capital. In the Philadelphia Rapid Transit Company much equipment and apparatus—horses, cars, rails, etc., purchased and their cost capitalized during the horse-car, cable-car and early electric periods, have long since disappeared, but the capital invested in those discarded facilities, although actually dead and representing nothing but a memory, still rides on the back of the capital now working. The active capital is forced to not only earn its own interest, but must carry a load of dead capital besides. In the Philadelphia Rapid Transit Company's capitalization there exists today at least \$40,000,000 of dead but unamortized capital drawing from the net earnings of the system an average of at least 10 per cent, or \$4,000,000 annually. Is it any wonder that the company finds it difficult to increase its working or active capital when the new capital must share in carrying such a load? To make matters worse, this dead capital must be given its pound of flesh before the new and active capital can be fed. In addition to being inactive capital, a part at least of the Philadelphia Rapid Transit capitalization is what is known as 'water.' This only aggravates a bad matter, and with this load, whether it be dead capital or water, the company finds itself unable to support the necessary capital burdens which the increasing traffic demands. New capital can only be supported by unnumbered profits and such profits are now exceedingly speculative on 5-cent fares.

"Since Mr. Mitten came here eight years ago, he has discarded at least 1,000 cars, six

or more power plants, five battery sub-stations, car barns and considerable mileage of track, and distribution system amounting in the aggregate to several millions of dollars; but aside from comparatively small renewal appropriations, this capital invested by the underlying companies still draws the same return as when this equipment was active and used in the service of the public.

"The reason why the company must ask the city to buy up its exchange business, why the contract-lease was rejected by the Public Service Commission and why so much difficulty is contemplated in arriving at a new lease, is because the company's capitalization has been allowed to pile up, property deteriorate and disappear without the establishment of depreciation or amortization funds and a pyramid of leases built up which, for 999 years, make the superseded property more potential in controlling the company's service and fares than the property now used in public service."

It is evident from Mr. Twining's report that the popularity of the Mitten management does not extend to the City Hall. The following quotation is from pages 1 to 3 of the report :

"Mr. Mitten recently presented Philadelphia's answer to the traction question before the Federal Electric Railways Commission at Washington, in which he claimed that the solution of the problem lies in the elements of money, management and men, and that management is the main connecting link between the money and the men. This solution absolutely ignores the needs of the public, and I desire today to call your attention to the fact that the problem is far broader, involving the city and the company as two corporations connected by the car riders as individuals.

"At the last meeting Mr. Mitten told you that the 5-cent fare was a religion with him. The two ordinances now before you are both intended to help support that religion and to disguise the fact that the 5-cent fare is no longer able to even appear to support adequate transit service. He has now reached the part of his religious service where he is passing the hat for the city's contributions in support of home missions. One of these ordinances is an appeal for a direct contribution; the other contains provision for an indirect contribution. Philadelphia has always been generous in charitable work and Mr. Mitten figures the time is now propitious to make an appeal for the poor car rider, whom he has undertaken to serve at a fixed rate per head, but finds the contract growing unprofitable, so he makes an appeal for charity ostensibly for the car rider's benefit when the real beneficiary is the company. As the company's finances are very sick, there is an old couplet which may or may not apply in this case; i.e., 'When the devil was sick, the devil a monk would be; and when the devil was well, the devil a monk was he.' The Company is in desperate need of money, and Mr. Mitten thinks, as a bit of business psychology, it will be much easier to get it in large payments through the City as a corporation on a charitable plea than to extract it in pennies from the car riders as individuals. He has reasons for such psychology—the plan worked in 1907. Fear is one of the most potent means of controlling human action, and by creating a fear in the public mind that fares may be raised if his appeal be not heeded, and that he is endeavoring to prevent such a contingency, he makes it appear that he is the champion of the public. This is not the first attempt that the Company has made to raid the City's Treasury, and when preparing to make such a raid it has always been the Company's policy to represent that its action has been inspired by a desire to benefit the public and render greater service without increasing the cost. That was the ostensible purpose of the 1907 contract, at which time the Company claimed that, if relieved from burdensome franchise obligations, the then existing schedule of fares was ample to provide not only the service then required but adequate service to meet the future growth of the City. At that time the Company's gross earnings were approximately \$18,000,000; today, although the Company's gross earnings have practically doubled, it is again appearing before this body with the same plea and for the same purpose, with this difference, however: *it now holds out simply the hope that if relieved of the remainder of its franchise obligations it may be able to maintain present conditions of service. It holds out absolutely no promise, hope or prospect of improvement of conditions in the future.*

"From the date of its formation in 1902, the Company has been 'seeking the pocket of gold which lies at the end of the rainbow,' and it still is trying to convince itself and the City that it will eventually escape from the influence of the unlucky star under which it was born.

* * * * *

"Since the organization of the Company, it has been its constant hope and belief that with the growth of gross earnings it would be able to escape from the financial Nemesis which has continued in pursuit, and each time that the shadow of financial disaster has hung over the Company it has appeared before Councils and presented an ingenious plea that it be allowed to trade some of its franchise obligations for real cash from the City Treasury."

Without being able to fathom the depth of the antipathy that has evidently grown up between Mr. Mitten and Mr. Twining, we can at least see from the quotations given above that in applying operating economies as a means for the solution of the financial difficulties of the electric railways, the interest of the public in good service must not be overlooked, and that economies affecting service cannot be carried far as a means of producing dividends on excessive capitalization without arousing public resentment.

CHAPTER XXXII

CONTROL OR ABOLISHMENT OF JITNEY COMPETITION

In Chapter XX of this report I have discussed at considerable length, in the light of the testimony adduced before the Commission, the effect of automobile and jitney competition upon the credit of the electric railway industry. As Interstate Commerce Commissioner Eastman remarked in his discussion of the failure of street railway credit, the investors are afraid of street railway securities, not only because of their experience in the past, but because of their fear of what may possibly happen in the future, particularly with respect to the possibilities of automobile competition and labor complications. The old structure of street railway credit, now fallen into ruins, was undoubtedly built on the fact of existing, and the assumption of future, monopoly. When the automobile appeared as an active competitor of the electric railway it introduced a new factor in street railway service and street railway finance that cannot be ignored in the formulation of public policies, whether it be from the point of view of the protection of the investors in street railway property or from the still broader point of view of the protection of the interests of the general public in the development and maintenance of sufficient and efficient local transportation service.

The automobile and the jitney bus are facts. The question is, from the point of view of street railway service, what, if anything, are we going to do about them? The public, through its governmental agencies, would not concern itself with the effects of this competition if it were not that local transportation is recognized to be an essential public service. So far as private automobiles are concerned, although they undoubtedly have their effect upon the extent to which people make use of the street cars, they are even now less important than human legs as a competitor of the electric railways, and it is not deemed to be consonant with the theory of American institutions and government that the free movement of private citizens by their own means of locomotion should be restricted in order to compel them to make use of public vehicles, whether the latter be operated by private agencies or directly by the government. Therefore, we may dismiss from consideration the feasibility of curtailing the use of private cars by restrictions established in the interest of the common carriers. All that could properly be done in this direction would be to compel the private vehicles using the public highways to pay license fees or taxes proportionate to the burdens they place upon the highways as compared with the burdens placed upon the highways by the street cars. In this connection, the result aimed at might be accomplished either by the elimination of special taxes and other financial obligations imposed upon the electric railways on account of their use of the public streets, or by the levying of corresponding taxes and public burdens upon motor

vehicles. The testimony before the Commission does not show clearly the extent, if any, to which the competition of private automobiles could or ought to be restricted by the adoption of this policy. It seems to be accepted that the free development of private automobiles is not to be interfered with except that regulation of parking and the use of congested thoroughfares should be such as to prevent the automobiles from cluttering up the street railway tracks and delaying the street cars.

The real issue arises with respect to the abolition or curtailment of the automobile bus and the jitney as common carrier rivals of the street car. Probably most street railway men will now admit that the street car had something to learn from the jitney, and that its failure to learn the lesson in advance of the jitney has been one of the important factors in bringing the electric railway industry into its present deplorable condition and in unsettling the confidence of the general public and of the investors in the future of the electric railway as an institution. Speaking abstractly, most people would undoubtedly agree that if the automobile as a common carrier gives promise of being able to perform the full service now rendered by the electric railways and to do it more efficiently and economically, then it would be against the public interest for the government to interfere by restrictive regulation to save from the junk pile the equipment of an obsolete mode of transportation. Therefore, the fundamental questions to be answered in attacking the problem of public policy toward the jitney and the automobile bus are these: First, is the electric railway operated on permanent tracks obsolete, or, if not interfered with, about to become obsolete as the principal means of local transportation? Second, if not capable of supplanting the electric railway as a means of local transportation, to what extent and by what means can the motor vehicle be used to supplement and round out electric railway service? While there is considerable difference of opinion as to the relative superiority of the automobile and the electric street car as the permanent principal means of supplying local transportation service in small towns, and even in medium-sized cities, the opinion appears to be nearly unanimous that the electric railway operating on tracks is by all odds the most efficient means of furnishing local transportation service in the big urban centers. In the very largest cities, where the bulk of the transportation service is now rendered or is likely to be rendered by elevated railroads or subways operating at high speed, it is not altogether clear that the residuum of passenger traffic to be carried on the surface of the streets may not, under some conditions, be carried more efficiently by motor vehicles not restricted by the necessity of using fixed tracks or fixed overhead equipment, than by electric railways such as we now have. That this possibility is receiving serious consideration is evident from the recently adopted policy of the City of New York, looking to the general use of motor buses to compete with and take the place of the surface car lines. Mayor John F. Hylan quotes the late Theodore P. Shonts, President of the Interborough Rapid Transit Company, as having expressed the opinion that the ideal system of local transportation for New York would handle the surface traffic by means of motor buses. Unfortunately, Mr. Shonts is dead and cannot be appealed to for a confirmation of his alleged statement, but there are many living witnesses who are ready to

predict that the surface cars in Manhattan, at least in downtown Manhattan, are doomed. This question of the relative qualifications of the motor bus and the street car as a means of transportation on the surface of congested streets assumes great practical importance at the present time, particularly in New York, on account of the warfare that has sprung up between the bankrupt surface electric lines and the motor buses recently brought into service at the instigation of the city administration. It is clear that if public welfare requires the continuation of electric railway service under the conditions that prevail in a given community, the public authorities ought not to attempt to destroy this essential means of public service through a subsidized or patronized competition. In New York, however, the motives of the city administration in promoting the operation of the buses appear, from the public pronouncements of the city officials, to be mixed. Apparently there is the desire to establish a new means of transportation that will ultimately displace the surface street railways entirely. Along with it is the immediate desire to furnish service where street railway transportation has been suspended, and also to punish the street car lines for attempting to increase their charges above the uniform 5-cent fare with free transfers. The recent partial disintegration of the Brooklyn Rapid Transit lines, for example, had the effect of breaking many individual car lines into two or three parts, with a duplication or triplication of the original 5-cent fare. One of the announced purposes of the city administration in connection with the development of bus service was to supply a 5-cent service in direct competition with these car lines for the purpose of compelling the restoration of the 5-cent fare on the electric railway.

Where jitneys and automobile buses acting as common carriers are subject to regulation by state commissions and are required to procure a certificate of public convenience and necessity before establishing a route or undertaking to render public service, the motor vehicles are usually prevented from entering into active competition with street car service unless the latter is shown to be wholly inadequate. That street railway service and jitney service cannot permanently exist and pay their own way in competition with each other under any ordinary urban conditions seems to be well established by experience and by the conditions inherent in local transportation service, but the belief is general that the motor bus may properly be used to supplement the service rendered by the street cars. The motor bus may be used to render a sort of *de luxe* service at a higher rate of fare, such as the service now rendered on Fifth Avenue and certain other high-grade residential streets in New York City, by the Fifth Avenue Coach Company, or the buses may be operated on other independent routes where no street railway service has been installed, or they may be operated merely as feeders to the street railway system to take care of traffic in partially developed territory in advance of the time when street railway tracks can be laid with reasonable assurance that the investment will be self-sustaining.

Mr. John A. Beeler, transportation engineer, discusses automobile and bus competition at pages 1673 and 1674 of the Proceedings, where he says:

"At present a great deal of publicity is being given to the possibilities of motor buses to replace non-paying street car lines, and it has even been predicted that the street railway

industry is doomed. These predictions are based largely on the operations of jitney lines, where the buses are running in competition with the street cars, and skimming off the best of the short-haul business, or where operations of the buses are made possible by higher fares such as on the Fifth Avenue Coach Company of New York City, where a ten-cent fare has been charged for years.

"The bus, with its limited carrying capacity, requires a higher ratio of man-power per passenger carried. The greater number of units increases the congestion and street accidents. The cost of fuel and repairs is much higher per car mile. The bus has higher depreciation. The street car wears out its own roadway of steel rails while the bus wears out the paving laid at great expense by the public. Where any considerable volume of traffic exists, motor bus service, considering everything, costs more than good street car transportation should. There are many places, however, where the bus can be employed to the great advantage of both public and company. There are other places where the bus should not be allowed. Unquestionably, however, the companies should study this with a view of coordinating bus service with the car service, where use is warranted as a part of the general transportation scheme."

Mr. Walter Jackson expressed views substantially in accord with those of Mr. Beeler. He had made a considerable study of bus operation in Great Britain in connection with his study of the British zone-fare system. The following testimony in regard to bus operation is found at page 1615 of the Proceedings:

"The Chairman: Are the buses in England operated in connection with the tramway companies?"

"Mr. Jackson: Generally they are and have been.

"Here is a peculiarity of English law: A private operator, a private person or company, can go into the bus business with no other preliminaries than securing police approval for the form of bus. It must comply with certain safety precautions and speed conditions and weight, and thereupon you can go into the bus business just as cheerfully as people go into the jitney business here.

"On the other hand, if the municipally owned railway wants to go into the bus business, it has to apply to Parliament for a special privilege.

"The British Electric Traction Company, which operates over thirty properties, has bus operation in connection with sixteen or seventeen of them, and the Leeds Municipal Tramways operate motor buses and trackless trolleys. Edinburgh, which has just acquired the system, has laid out half a dozen motor bus routes, and Aberdeen is putting in motor bus routes, and Glasgow is considering them.

"The British idea for using buses is, so far as most of those properties are concerned, the development of the suburban traffic, to know where you stand. A comparable case is that of the Municipal Railway of San Francisco, in developing bus service across Golden Gate Park and other places. The Stone & Webster interests in Washington run a number of bus lines and feeders to the interurbans. They do not make money on them. They did make a little money on one, but generally speaking you give a bus service because you lose less money on it than on the track, and you feel that you have to give it because you are a utility and there is a demand for it.

"The buses in Leeds are run, say, on a thirty minute headway and the trackless trolleys about twenty; and when the service justifies ten minutes, they will put down track, but not before."

Further on, at page 1616, Mr. Jackson explains why he does not think that the bus can entirely supplant the street railway. His testimony is as follows:

"The Chairman: Can the bus entirely supplant the street railway in cities in this country?"

"Mr. Jackson: Certainly not.

"The Chairman: Why?"

"Mr. Jackson: It is a matter of capacity as well as operating expense. The buses proposed in this country do not exceed 50 seats. A bus operation calls for no standees. In this country it is being developed along the lines of a *de luxe* line, with ten-cent fares; and the biggest excuse or the best reason they have got for asking the double fare is that there is a seat for every passenger.

"The ratio of labor expense, platform expense, on a bus is far more unfavorable than on a street car.

"Take the comparison in London: The London County Council car seats 78 passengers and has two operators. The London bus now in use seats 34 passengers and has two operators. In one case you have got 39 passengers to each employe and in the other case you have got 17 passengers to each employe."

Mr. William J. Clark, for the past thirty-two years connected with the General Electric Company, and a pioneer in the development of the electric railway, in discussing possible economies in electric railway operation, expressed the opinion that very little further improvement can be expected in the type of motors used. At pages 144 and 145 of the Proceedings, he discusses the future possibilities of the Ford gasoline car and of the motor bus not operating on tracks as a substitute for electric railway transportation. In this connection he says:

"Of course, this is true, that as long as your labor item is the great big one in your operating expense, there is not very much room to cut down otherwise. Now, your current costs are small, relatively. Of course, it is entirely possible. I have ceased saying that anything is impossible. I have seen such wonderful things come. We will say, for instance, Mr. Ford may revolutionize all traction on street railways, as he has said he is going to do. I don't think he will be able to do it, but it may come along and better our present form of electrification; but, as I remarked a moment ago, so long as you have to have platform wages, you understand, and switchmen and men in the car barn, you have not a great way to go in the way of economy.

"Mr. Warren: Mr. Clark, right at that point, you spoke of Mr. Ford. Do you * * * * * think that a carrier on tires through the highway can ever be as satisfactory economically as a carrier on rails?"

* * * * *

"Mr. Clark: As a wholesale transportation proposition, something equivalent in transportation facilities to that given by the street railway, no.

"Mr. Warren: Mr. Ford's suggestion, as I recall it, was to equip an automobile car which would run on rails, was it not?"

"Mr. Clark: Yes.

"Mr. Warren: It was not to run a large jitney, for instance?"

"Mr. Clark: Oh, that was not his idea; but if you will let me finish my answer, of course, it does appeal to the average person, if he can be picked up at his own curbstone, you understand, and delivered at the curbstone where he wishes to go; but, in my opinion, with any vehicle propelled by any power, not operating on rails, you cannot care for local travel under the requirements of the American public. You cannot do it."

Mr. Frank J. Sprague, the celebrated engineer who in 1887 at Richmond, Va., equipped the first commercially successful electric railway, gave his opinion as to the future of the industry at pages 759 and 760 of the Proceedings. Chairman Elmquist's questions and Mr. Sprague's replies at this point are as follows:

"The Chairman: Now, Mr. Sprague, you have borne a very conspicuous part in the development of this industry and have naturally given very close attention to it. You have seen it developed from a small industry to perhaps the second largest in the country and performing a very great public service. In recent years you have also witnessed the tremendous development in good roads and in the automobile industry and in the very recent years in the aircraft industry. Now bearing in mind the very great initiative of the American people, can you for a few moments present to us what you believe to be the future of the electric railway industry?"

"Mr. Sprague: Well, the electric railway industry is going to face greater and greater competition all the while. It is facing it today in the automobile. The better the roads, the better the pavements, the cheaper the automobile, the more people who can buy one, the more the electric railway has got to suffer. That is undoubtedly true.

"The Chairman: And will it stand up under the force of this competition and rapid expansion of other lines of activity in transportation?"

"Mr. Sprague: Well, any of them, the aircraft and the automobile, will create a traffic of their own which will be in addition to the traffic the electric railway will carry.

"When the electric light was first introduced it was widely predicted that the day of gas was ended. The principle of the incandescent lamp itself has been but little changed in all these years. We have gone, it is true, from a carbon filament to the metallic filament, but the basic principle is the same, a high resistance filament inside of a vacuum and operated at certain standard pressure, and that pressure has remained practically constant all these years. There has been an improvement in the economy of the lamp. On the other hand, those interested in the gas industry have tried to improve their product and widen the uses of it, and I guess there is more gas used today, despite the rivalry of the electric light, than there ever was in the past.

"People get the habit of riding. They do not entirely forsake one method and adopt some other. They simply ride more. And I think the electric railway has a field of its own, meeting competition, of course, all the while, but if it is well managed, if it is well kept up, if its standard is maintained, it will hold a traffic of its own.

"The Chairman: Will not the improvement such as you have mentioned cause a more general distribution of our population throughout the country, decentralizing the cities and spreading them out into suburban territory on small tracts of land, thus causing more travel?

"Mr. Sprague: The more you spread them out the more intercommunication will exist.

"The Chairman: And that will be beneficial to the railroad industry?

"Mr. Sprague: Yes, I think so.

"The Chairman: Do you feel hopeful that the electric railway as it now stands is a permanent institution?

"Mr. Sprague: Absolutely.

"The Chairman: And such an institution that capital can safely invest in it and people depend on service from it?

"Mr. Sprague: They can, if they can be assured of reasonable treatment."

Mr. Richard T. Higgins, Chairman of the Public Utilities Commission of Connecticut, closed his direct statement at pages 1109 and 1110 of the Proceedings, with the following:

"I believe that the states that have imposed burdens upon street railway companies in the nature of street paving, heavy expense of maintaining highway bridges and so on, should reduce or repeal those impositions, if we are going to save our street railways.

"I think it would be difficult for any man to prophesy what effect the future will have as between the automobile and the street railway; but we know today that street railways are absolutely essential for the handling of the traffic in our populous cities, and during the transition period at least those companies and the public should be protected and safeguarded in their rights until such time as the change comes about.

"Further than that, if we are in a transition period, where the policy of transportation is changing from the street railway car to the rubber-tired vehicle, I believe that the street railway companies' franchises should be so amended as to permit them to make a charge in keeping with the public demand, and to protect the millions of dollars of investments now in street railway properties owned by millions of people all over our country."

Mr. Richard Schaddelee was severely critical of commission regulation from the point of view of the electric railways. In Chapter XX of this report I have already quoted his testimony with respect to the unfairness of jitney competition in Illinois and the cure that was found for it through court action, not through any action by the state commission. At page 860 of the Proceedings, he discusses the relation of the private automobile to the future of the electric railway, as follows:

"Of all the factors to which the present critical condition of the electric lines has been attributed there is only one against which the commissions cannot afford protection. This single exception is the competition of the private automobile.

"And this factor is the one that, in my opinion, is least responsible for our critical illness.

"The automobile has fastened the riding habit on the public, has accustomed it to rapid transit and thus has been rather beneficial to us than otherwise.

"The electric lines which I am connected with or have knowledge of are collecting more street car fares now than ever before.

"Our gross business is very satisfactory and will continue to increase if we receive enough money to restore our credit with the investors.

"The electric railways are not sick and will not die by reason of being economically or evolutionarily obsolete, or superannuated; nor by reason of natural decay. If these were the causes of our illness, or if we were threatened with extinction by a superior mode of locomotion that can better perform our functions under the same restriction as to fares, and under the same requirements as to service, taxes, etc., then in that case it would be useless to ask or request for relief. For no private interests can successfully resist real economic evolution.

"Electric railways are now more necessary to, and enter more intimately into the social and industrial life of our urban, suburban and interurban population than ever before, even if a small percentage of this population is not now as exclusively dependent upon electric railway transportation as it was ten or twenty years ago.

"The automobile has been a great factor in relieving congestion in cities by encouraging suburban and interurban residence.

"These people feel that the automobile makes them independent of the electric lines, yet they will use them habitually, using their car or our cars as their convenience or caprice dictates.

"No, gentlemen, the present critical illness and the impending death of the electric lines are not due to natural causes.

"We are ill, even unto death, entirely by reason of an artificial cause and that is: insufficient financial nourishment."

Mr. Roger W. Babson tells what he thinks of the future of the street railway at pages 1059 and 1060 of the Proceedings, where the following testimony occurs:

"The Chairman: What, in your judgment, is the future of the street railway industry?"

"Mr. Babson: I think in some communities, in the large cities, they will be profitably operated, and there will be a sound business for them. I think in other communities they will be disbanded. I do not think one problem can apply to all.

"For instance, we assumed that candles had gone out of business when kerosene came, and that kerosene went out of business when gas came, and that gas went out of business when electricity came; yet, as a matter of fact, there are more candles and more kerosene and more gas being sold today than ever before.

"I think that the street railways of the future will find their function with subways and elevated lines, and I think in a great many communities the street railway has come to stay. For instance, you can get in from Brookline into the center of Boston more quickly by street railway than you can in a taxicab. That is the test. And I believe for that service the street railway should be allowed to charge, if it wanted to, as much as the taxicab.

"On the other hand, there are hosts of other instances where you can travel better by taxicab than you can by street car.

"I think the thing ultimately is going to be solved on the basis of service, whatever system we have, whether we have municipal ownership or service-at-cost plans, or what not."

That "jitneys should be regulated and their operating requirements made no less onerous than those imposed on the street cars," is the opinion of Mr. Beeler, expressed at page 1069 of the Proceedings. Mr. Babson speaks even more emphatically. At page 1064, he says:

"I do not believe in letting Tom, Dick and Harry run these Ford cars around. I believe that jitney service should be regulated, and that it should be done decently and properly, and in a responsible way and by responsible people."

At page 1065, he says further:

"I think the jitney service should be under the same regulations as the street railway service.

"Commissioner Sweet: You would want to have just as much guaranty of continued service as with the street railroad?"

"Mr. Babson: Yes.

"Commissioner Sweet: The public is entitled to that?"

"Mr. Babson: Yes. I sympathize with the Public Service Commission in their demand for service, and it seems to me that there is the great field at the present time for work—to demand service; but we are all discussing price, and we forget all about service. I think there are a lot of street railroad companies, that, if they would only wake up and give good service, they would save themselves."

Further on, at pages 1068 and 1069 of the Proceedings, Mr. Babson's idea that free competition between the electric railways and the automobile bus system should be permitted is elaborated and defined as follows:

"Mr. Warren: Mr. Babson, as I get your view of the situation it is either that the restrictions on the street railways should be removed or corresponding restrictions should be imposed upon the jitneys, including the motor buses, and then they should be left to see which one will survive in cases where both are not needed. Is that right?"

"Mr. Babson: Well, I would rather remove these artificial restrictions on the street railways first.

"Mr. Warren: By that you mean the taxes and burdens?"

"Mr. Babson: Yes, I would not put paving taxes for instance on the jitneys.

"Mr. Warren: I was not referring to that so much as I was to what is called regulation. I suppose nearly everybody would agree that those burdens which have no relation to the service and that are not necessary to performing the service and amount only to a tax on the car rider ought to be removed anyway. If income is needed by the community it ought to be acquired through some proper method of taxation and not by an indirect tax on the car rider, but aside from that there is a great deal of regulation of street railways that does not apply to jitneys in most places; for example, the street railways are expected to operate in a snowstorm as well as in fair weather; it is expected that they will begin very early in the morning and operate until midnight and in some places all night. Would you remove such requirements as that?

"Mr. Babson: I should make them equal, yes, sir.

"Mr. Warren: Make them equal?

"Mr. Babson: Yes, sir.

"Mr. Warren: And then let them see who could best serve the public?

"Mr. Babson: I feel very strongly that we should insist on regulations for service and we should hold up the standard of service on all forms of public utilities; and I feel that the great work of public utility commissions is to see that the public has proper service and to see that the jitneys and the street cars are under the same rules as to service.

"Mr. Warren: So that practically I infer that rather than remove these service regulations from the street railways you would leave them on, but you would impose corresponding requirements on the jitneys.

"Mr. Babson: So far as they refer to service, yes.

"Mr. Warren: If they were going to undertake to serve in a certain street in competition with the street railway they should meet the same hours and same service conditions.

"Mr. Babson: Yes, sir.

"Mr. Warren: And if the fare was going to be regulated on the street railway then the fare on the jitney should be, but your judgment I take it would be that as regarding the fare, if they were in competition you would let them regulate that themselves?

"Mr. Babson: Yes, I would let that regulate itself.

"Mr. Warren: And the same I presume as regards liability for accident. I do not know whether you have noticed, but I happened to be in Williamstown over Sunday and in reading the Republican I saw that a jitney in Holyoke, where they had just been considering a regulation of jitneys, had been upset with six or seven children in it; one or two had been killed and the rest were all taken to the hospital. Now, if that had happened to a street car in Massachusetts it would have amounted to anywhere from twenty to fifty or sixty thousand dollars damages would it not, as our juries operate?

"Mr. Babson: Including lawyers' fees.

"Mr. Warren: Well, I think with that it would be still more, but it would have been a very substantial amount. How would you meet that?

"Mr. Babson: I think that same thing should apply; yes, I should think the same thing should apply.

"Mr. Warren: Most of the jitneys which are at present operating in Massachusetts are individual operators, and the only way it could be reached would be by requiring some sort of a bond.

"Mr. Babson: When I speak of jitneys I have more in mind the bus system.

"Mr. Warren: And there you would expect a corporation with some responsibility of operation?

"Mr. Babson: Yes."

Other witnesses also laid stress upon the point that, in many parts of the country at the present time, the electric railways have to meet unfair competition from the jitney buses for passenger traffic, and, so far as the interurban lines are concerned, unfair competition from the motor trucks for freight service.

If jitney buses are to be regulated in such a way as to meet the requirements of fair competition, several questions arise. In the first place, it must be determined by whom the regulatory authority shall be exercised, and, in the second place, what particular regulations are necessary in order to put jitney competition on a fair basis. The development of public control over the jitney business has followed along much the same lines as the development of control over electric railways, but is still a long way behind. For example, in some states where the regulation of electric railway service and rates has been conferred upon the state commissions, the regulation of the jitneys is still left in the hands

of the individual municipalities. If both systems of local transportation are to be tolerated, and if their competition is to be put upon a fair basis, it seems reasonably clear not only that general legislation emanating from the same source and applying both to the electric railways and the jitneys is necessary, but also that the power of interpreting and applying such legislation in the manner characteristic of commission regulation should be exercised in the case of both utilities by the same authority. Undoubtedly, if it is to be admitted that exclusive state regulation is an appropriate and necessary method of controlling electric railway service and rates, the electric railways have a just grievance so long as the competition of the jitney bus is subject to no substantial restrictions except those which may be imposed by the caprice of the municipal authorities, or by their hostility to the street railways over which they have lost jurisdiction. I am not at this point admitting that exclusive state regulation is the proper method of controlling the electric railways, but merely admitting that, if this system is to prevail with respect to electric railways, their demand that the jitneys should be similarly controlled is a logical one. It is my own view, however, as will be shown in a later section, that local transportation cannot be regulated with the highest degree of success except through a carefully worked out plan of cooperation between state and local authorities.

What Mr. Lucius S. Storrs thinks should be done with respect to the jitneys is shown at pages 444 and 445 of the Proceedings, where the following testimony is found:

"Commissioner Meeker: I take it that you advocate the regulation of the jitney and the motor truck traffic and control of such traffic by the public, in order to put those services on the same footing as the services rendered by the street railway companies?"

"Mr. Storrs: Absolutely, it seems to me essential from the standpoint of the communities and the commonwealths, in the large communities, to have that character of transportation thoroughly regulated, the same as the other means of transportation are regulated.

"Commissioner Meeker: And if those means of traffic are able to beat the street railways out, if they were all subjected to the same regulation, the same measure of control, then the street railway companies would have to take a licking; but it is wholly unfair, I gather from your testimony, to have these services rendered on an unfair basis?"

"Mr. Storrs: Yes, sir.

"Commissioner Meeker: Which is really service rendered to the public at less than cost?"

"Mr. Storrs: Without doubt.

"Commissioner Meeker: And at the expense of the established service rendered by the street railway companies?"

"Mr. Storrs: The communities and the states have invited investors to come in and provide the essential transportation need of the communities, and have in the past guaranteed, through their statutes, a transportation monopoly. In this case, this other public utility would come in, and for the community and the commonwealth to allow unregulated competition is inconceivable. It should not be allowed to go on."

At pages 454 and 455 Mr. Storrs continues as follows:

"Commissioner Sweet: If I understand you right, you think that jitneys, auto trucks, and any conveyance that carries people for hire, ought to be regulated and controlled on the same equitable principles, with a view to the general interest of the public, as well as the electric railways?"

"Mr. Storrs: Absolutely.

"Commissioner Sweet: You would recognize, then, the right of jitneys to exist?"

"Mr. Storrs: Without question.

"Commissioner Sweet: But I dare say that you think if they were properly regulated, there would not be so many of them?"

"Mr. Storrs: The weather regulates them automatically at times. During periods of severe rain, they get off of the streets, and during periods of snowstorms, the service is entirely discontinued, or continued, perhaps, through that portion of the street that is cleared of snow by the railway for its own needs.

"Commissioner Sweet: If the same rule were applied to these methods of conveyance as is applied to electric railways, do you think it would make a very material difference in the number of jitneys that would be used?"

"Mr. Storrs: Oh, without doubt.

"Commissioner Gadsden: As a matter of fact, has not that been the history throughout the United States already, Mr. Storrs?"

"Mr. Storrs: That has been the history.

"Commissioner Sweet: Have you figures that would show that?"

"Mr. Storrs: They can be prepared. We have no figures of that particular kind, because in our country there has been no regulation.

"Commissioner Sweet: But it would seem reasonable that they should be regulated on the same general principles as the electric railways.

"Mr. Storrs: Yes; that is true.

"Commissioner Sweet: Can you think of any reason that would be given why they should not be so regulated?"

"Mr. Storrs: It is inconceivable to me that there would be any reason."

Undoubtedly, back of the demand for effective jitney regulation is the hope and expectation on the part of the electric railway men that such regulation will greatly restrict, if it does not entirely destroy the jitneys. On this point, Mr. Storrs' testimony is reiterated farther on in the Proceedings. At page 460, we find the following:

"Commissioner Gadsden: Well, the point I wanted to get your opinion on was this: Is it not true that wherever there has been proper public regulation, the jitney has practically disappeared?"

"Mr. Storrs: Almost entirely."

Mr. W. B. Head, Vice-President of the Dallas Railway Company, at page 635 of the Proceedings, tells how jitney competition was destroyed in Dallas, as follows:

"It was done by creating a zone in which they were not allowed to operate, and that zone comprises practically all of the business section.

"Mr. Warren: That was taken into litigation?"

"Mr. Head: That was taken into litigation, and had to go through the courts.

"Mr. Warren: And it was sustained, was it?"

"Mr. Head: It was sustained; yes, sir. There had been other ordinances passed, the requiring of bonds, and things of that kind. There were altogether four or five lawsuits in the court."

The testimony of Mr. Homer Loring with respect to jitney competition in eastern Massachusetts and the proper way of handling it, and the testimony of Mr. William C. Bliss about jitney control in Rhode Island have already been cited at considerable length in Chapter XX of this report. One-man car operation as a means of meeting and overcoming jitney competition failed in Kenosha, Wisconsin, in 1914. The reasons are explained by Mr. James D. Mortimer, at page 781 of the Proceedings, where he says:

"In 1914, the little street railway down there, embracing about seven and a half miles of track, had very severe jitney competition. Distances were very short. We undertook the operation of one-man cars. That produced a very unfavorable public reaction. The town was not well situated for the operation of one-man cars, because there are twenty-five railroad crossings in our seven and a half miles of track, and one of the principal functions of the conductor is to flag the railroad crossings. At least, that was the principal function during the time when the jitneys were so active."

It appears that in 1918 the trainmen in Kenosha demanded an increase of ten cents per hour in their wages, but the company told them it was not making enough money to grant the increase. Then the men threatened to strike, and the company "told them that was probably the best thing for them to do under the circumstances, and that there were lots of other means of employment in Kenosha

that were more remunerative." The men struck and street railway service was entirely stopped. What happened then is described by Mr. Mortimer at page 782 of the Proceedings, as follows:

"While there had been much complaint about single-truck cars and the fact that they would like double-truck cars down there, opinion gradually changed, and on numerous occasions the editorial writers in the local press wished the company would take a car out of the station and let it stand down in Market Square, so they could see what a street car looked like.

"Things developed that way for five weeks, until the Railroad Commission ordered the jitneys off the streets and ordered the company to resume service. We resumed service at a five-cent fare, and with largely increased revenues. We are now operating that short system with the smallest average sized cars and the largest earnings per car mile that we have in the State of Wisconsin."

Dr. Dugald C. Jackson discussed the relations of the street railway to the jitney from the point of view of community economy. He reached the conclusion that street railway service is generally more economical than jitney service, even though the direct cost to the individual rider may be greater. Upon the specific subject of the apparent advantage of the jitney buses in not having a big investment tied up in permanent way and tracks and power plants, Dr. Jackson says, at pages 1425 and 1426 of the Proceedings:

"Here is a thing that affects this question of the drift to the buses. You must remember that practically half, or somewhere in the neighborhood of half of the total fixed investment of the street railways is in the permanent way and paving. It is fixed. It is that part that is corresponding to the street surface. That proportion has slowly increased during the past years. The increase in proportion has not been very marked, but it has slowly increased.

"The jitney buses, whether they are of the sporadic kind or regular system line buses, which run at will on the street surfaces, are freed from this investment. That puts them in a position where, perhaps unless the difference in circumstances is understood by the public, the drift toward the buses will continue, and will actually take care of a good part of the present surface hauling of the street railways.

"If the public fully understands the situation, I think the buses will not be looked upon as being so favorable as they are now looked upon as being.

* * * * *

"Now, the jitney buses do not have this investment. True, their owners contribute by taxes and license fees toward the cost of pavements, but so do the street railways, in addition to financing the investment of their own permanent way which is used jointly by other street traffic. Moreover, the street railways make heavy investments in power plants of the most economical character, which is a conservation policy as well as a policy for economy, and the jitney does not. These considerations make the jitney business more like other commercial enterprises in respect of the rapidity of turnover of capital, and also enable it to compete with street car service operated with flat fares."

Dr. Jackson then goes on to discuss the effect of jitney operation upon street congestion and paving costs. At page 1426, he says:

"Now, the question really is, will jitney bus lines with systematic routes and reliable schedules make desirable substitutes or successors to the street railways, or at least as to a part of their business, as has been asserted, more or less unthinkingly, but sometimes with real, definite decisions. * * *

"What would be the effect on the street traffic congestion in cities such as Chicago or Baltimore or Philadelphia or Boston and a large number of others if the surface street railway service was replaced by bus service of equal reliability? Many of the American cities, I do not know how many, but quite a large number, each have more than one thousand cars operating on street railways during their rush hours.

"To replace such a service with buses would require several times as many vehicles, thereby adding to the welter of street traffic in the heart of each city. These vehicles would cause more than a proportionate addition to the traffic confusion because they would travel at will over the street, instead of being confined to certain definite channels like the street cars. Moreover, additional streets would have to be paved with smooth pavement at great expense to support this bus traffic. Buses run very well on smooth paved streets like Fifth

Avenue, New York, and certain streets of Baltimore or Newark, but few American cities pave sufficient streets with smooth pavements of the quality enabling them to stand heavy traffic, and the cities would find it necessary to make enormous additions to their investments in pavements before jitney buses would meet the general needs of local transportation. In addition to this a large increase of annual cost for paving maintenance would follow. Given equally systematic and reliable service by street cars and by jitney buses, community economy stands with the street car for service in main channels."

But the public may demand jitney service anyway, not realizing how much it costs. At page 1426, Dr. Jackson continues:

"I am satisfied that that opinion is correct community economy, that is, dollars and cents, when you have equal physical results in the way of service; but it may not be that which satisfies the public best, and if it is not that which satisfies the public best, the jitney buses must come and the rail service practically relinquish its short-haul."

Dr. Jackson thinks that "the jitney may be made serviceable for certain special conditions," but that "it is necessary under our present conditions of city life to maintain the rail traffic at a high degree of completeness." His conclusion is reached at page 1428 of the Proceedings, where he says:

"If we allow the street railway to decline and the jitney to partially take its place, it is possible that the direct transportation cost of the individuals in the community will decrease compared with the cost under present conditions, but the total cost, considering the sum of the direct and indirect costs, will actually be increased, and the final result of allowing our local transportation by street railways to decline, will lead us into a less satisfactory ultimate condition, although the immediate effect may appear to be improved."

Still, Dr. Jackson is not sure that the public will agree with him, and he says that it is for the public to decide whether "a sacrifice of community economy" shall be made for the sake of other things. On the subject of repressive regulation, at pages 1428 and 1429, he says:

"In my opinion no amount of repressive regulation will be adequate to do away with the competition which jitney buses produce. You can make repressive legislation all you choose, and then it will not do away with them, if the public believes they are right. The street railway man who says: 'If they would only regulate these jitneys off the streets, we would be all right'—that street railway man should look into his mental processes and see what is the matter with his management that allows the jitney to come up; because you cannot get rid of them by repressive legislation if the public believes they are necessary."

At page 1429, he continues:

"I believe that the present sporadic jitney is a scheme that will soon lose popular favor; and, in fact, at one time in certain cities it was very rife—anybody would buy a Ford and run it for a while, and it was in great favor; but in most of those cities where it was in the greatest favor for a time, it is in much less favor now."

Dr. Jackson's point that the regulation of jitneys should be for the purpose of establishing regular, definite lines and providing for systematic transportation for the benefit of the community, is emphasized at page 1429 of the Proceedings, as follows:

"The Chairman: The kind of legislation which you have in mind is that in the interest of the public, rather than that in the interest of the street railway system?"

"Mr. Jackson: Yes; and I say that regulation of the jitneys which is in the interest of the public, aids the public, because it makes systematic transportation out of it.

"Legislation or regulation which is in favor of the street railway company, which is repressive on the jitneys, will never put the jitneys out of business, because the public will have them if the public thinks they want them.

"The one way to put the jitneys out of business, I am satisfied, is for the street railway people to make their service satisfactory, and their prices so reasonable that the public are satisfied to ride. * * * *

"If the street railway service cannot be made complete and adequate to the needs, some other service, such as jitney service, will come in as a competitor. In fact, it ought to come

in and be encouraged unless means can be provided to make the street railway service adequate to the needs, and the necessities of the present are to find the best ways of making the street railway service adequate, in view of the fact that it is ultimately the cheaper service."

Mr. Charles L. Henry, of the Indianapolis and Cincinnati Traction Company, called attention to competition of the motor truck for interurban freight business. In the development of the motor truck business during the war period the Highways Transport Committee of the Council of National Defense ran up against the problem of "wildcatting," and issued a circular calling attention to it in the following language, quoted at page 713 of the Proceedings:

"One very pertinent subject is suggested, and that is the possibility of a few individuals who might attempt to haul freight from a large city to towns 30 or 40 miles away for a sum per hundred weight which would make it impossible for one operating a route regularly and on fixed schedule to meet such competition. The suggestion made is that a continuation of such practices, wildcatting, as it were, in the motor transportation field tends to discourage the entrance into this field of those who would seek to serve the public regularly and satisfactorily, and at a cost to the shipper of just enough to make a venture financially profitable."

Mr. Henry's comment is found at pages 713 and 714 of the Proceedings, as follows:

"Now, take that and apply it to the interurbans. It tells its own story. It is rather remarkable that at this early day in the development of trucking they should have to issue such a circular as that. We do not ask you to do away with the truck hauling by motors, but we do think they ought to be under the same kind of regulation and restrictions that we are under.

"Mr. Warren: They are like the jitneys, I suppose, are they not?

"Mr. Henry: They are worse; that is all. The jitneys are lice, and these are full grown animals.

"There is no reason why this sort of wildcatting, as this gentleman calls it here, should be permitted to go on uncontrolled, and I am glad to know that some fellow going into the truck business has seen fit to call attention to it. It may bring about important results. It is one of the things that you gentlemen ought to take into consideration, and take such action as you may think is best in regard to it, because it amounts to a great deal."

The conclusion of the whole matter of the control or abolishment of jitney competition may be summed up, perhaps, in a few words. All transportation service is for the public. Jitneys and automobile buses cannot be repressed merely for the sake of compelling people to ride on the street cars, particularly if the car fares are higher than the jitney fares and the car service less convenient than the jitney service, and if the electric railways are to continue in the position of a more or less speculative business in which the private owners stand to reap the principal advantages from the restriction of competition. However, it is clearly in the public interest that all common carriers engaged in local transportation service should be required to render adequate and safe service, and that local transportation facilities should be developed in the most economical and effective way from the point of view of the community. Unnecessary and destructive competition in such services ought not to be permitted, and the community at large should conserve the established facility that still is and promises to continue for an indefinite period the principal means of local transportation. The problem is in considerable measure a local one, but in every case it should be solved with intelligent regard to the permanent interests and obligations of the community. If the street railways are to be allowed the benefits of even a qualified monopoly, they should be required to fulfill its obligations. They must

render service that is adequate and convenient at rates that are attractive. The community can afford to go a long way to preserve street railway service; but the question constantly forces itself to the front whether it could not adopt the necessary protective measures with a better conscience if it were prepared in fact to deal with local transportation as a full-fledged public function. We are still discussing primarily the problem of restoring electric railway credit. Jitney repression will not do that effectively, if it leaves the riding public in a crotchety mood.

CHAPTER XXXIII

COOPERATIVE RELATIONS BETWEEN MANAGEMENT AND MEN

An important leak in electric railway revenue in various places and at different times has resulted from the "knocking down" of fares by conductors. In other cases, as a result of overcrowding or carelessness, the conductors have failed to collect from all the passengers. Obviously, it is impossible to measure accurately these unrecorded losses. The Indiana Public Service Commission found a very serious condition existing in this respect on the Indianapolis lines. Mr. Carl H. Mote, then secretary of the Indiana Commission, testifies in regard to it at page 1118 of the Proceedings, as follows:

"We found by a survey made in Indianapolis, that the companies there were losing 13.8 per cent of their total revenue by failure to collect the fares.

"Mr. Warren: How much?

"Mr. Mote: 13.8 per cent of the total revenue. That revenue is now being collected.

"Commissioner Beall: Was that due to war conditions—the different class of labor that you had during the war conditions?

"Mr. Mote: Incidentally to that, but that was not the fundamental thing.

"Commissioner Gadsden: You mean knocking down.

"Commissioner Beall: You think that was a condition that had endured for a number of years?

"Mr. Mote: Yes.

"Commissioner Beall: I know a great many companies had that trouble during the war period, due to the different class of labor that they had to use. How do you account for it in that case? Did they have lower grade of labor than most other cities or was their system incorrect?

"Mr. Mote: Well, during the rush hours it was shown to be a physical impossibility for the conductor to collect the fares.

"Commissioner Beall: Have they corrected it? What did they do?

"Mr. Mote: By the installation of the pay-as-you-enter cars.

"The Chairman: Has that increased the revenue?

"Mr. Mote: Absolutely. For instance, a 16 per cent increase in rate has given the company a 25 per cent increase in revenue."

Mr. Mote stated that in his opinion the pay-as-you-enter system had not slowed down the operation of the cars to an appreciable extent, and the cost of adopting it had been slight. At page 1119 of the Proceedings, he says:

"Another objection that the company raised to introducing the pay-as-you-enter car was the expense. They had the old type car. We worked out a very simple modification, however, of their old type car, which, I think, did not cost them to exceed \$50 or \$60 per car to convert their old type cars into pay-as-you-enter cars. The gain has been tremendous, and I think the company itself would never go back to the old type of car now."

This backwardness of the Indianapolis street railway company with respect to the conservation of its revenues was only one of the evidences of poor management found by the Indiana Commission in its contact with the street railways of the state. Mr. Mote stated that a good many cases of bad conditions of operation had been found. He spoke particularly of costly wrecks on interurban lines

that should have been avoided. In one case, where the block signals were out of repair, he estimated that the wreck would cost the company \$150,000. He pointed out that the predecessor of the Ft. Wayne & Northern Indiana Traction Company, the one electric railway of the state now in receivers' hands, had a tremendous disaster a few years ago which resulted in a receivership. The present company, he said, was going through a friendly reorganization to reduce its securities. Mr. Mote did not state to what extent the bad operating conditions in Indiana were due to a failure of the employes to cooperate fully with the management, but he indicated that in general the street railway employes were not well organized.

I have cited the conditions described by Mr. Mote to give something of a background to the suggestion of Mr. Thomas E. Mitten that the real cure for the financial problem of the street railways is to be found in his scheme of cooperative management. In Indiana the economies and improvements suggested by the Public Service Commission enabled the companies to get along without raising the fares above five cents. In Philadelphia the necessary economies and efficiencies were developed by the company as a matter of policy initiated long before the war. While the Indiana Commission was insisting on the adoption of the pay-as-you-enter plan for getting all the fares collected and paid into the street railway treasury, the Philadelphia Rapid Transit Company was appealing to the self-interest of its employes under the "Cooperative Plan" and refusing to adopt the fare-box method of collection. Mr. Mitten's prepared statement was read into the Proceedings by Mr. C. J. Joyce. At page I515 we find the following:

"Results here secured are thrown into bold relief by comparison with conditions existing elsewhere. Philadelphia Rapid Transit, with almost 5 per cent fewer employes than in 1910, is now producing over 98 per cent more effective traffic units per employe, this as against results secured on the Pennsylvania Railroad contained in a speech by Vice-President W. W. Atterbury as reported in the public press, wherein the number of employes is said to have been increased 14 per cent, the output (or effective traffic units) being 11 per cent less than in pre-war days. The case of the Pennsylvania Railroad, showing decreased production, is but one of the many instances, wherein the effort to increase production has given way to the great struggle upon the part of labor to secure a larger wage for a smaller amount of work.

"Aside from the urgent necessity of helping to make up for the shortage of necessities occasioned by the war in Europe, it stands to reason that capital and labor cannot divide that which does not exist and that more of everything essential must now be produced in order that there may be more with which to supply our needs. If the forces of labor and management will combine so effectively as to produce almost 100 per cent more per man, as we are doing here through cooperative effort, much, if not all, that is required to overcome the higher cost of living will have been accomplished.

"The keystone of all success as between Man and Management is confidence. Distrust breeds discontent. Confidence begets confidence and cooperative effort then becomes possible. The confidence of the Men in the Management and likewise the confidence of the Management in the Men is what makes Philadelphia stand out in accomplishment.

"Philadelphia is almost alone in its position of antagonism to 'cash box fare collection' or any system which tends to show a lack of confidence in the conductor. It can hardly be expected that a self-respecting employe will take seriously the statement that he is our partner if we require the action of the passenger to assure us that the fare collections are being properly made."

Here we have two quite distinct phenomena—efficiency and honesty imposed by a state commission and efficiency and honesty developed through a combined appeal to honor and self-interest. Which is the better? As shown by Table II, in Chapter XXVIII of this report, the gross passenger revenues of the Philadelphia Rapid Transit Company, without any change in the fare, showed an in-

crease of 20.3 per cent for the first nine months of 1919 as compared with the first nine months of 1917. The increase in the passenger revenues of the Indianapolis Traction and Terminal Company during the same period was 29.48 per cent, but the average rate of fare had increased 17.37 per cent in the meantime. Philadelphia appears to have a little the better of it, but, as the saying goes, one swallow does not make a summer, and very little can be proven decisively as to the superiority of methods by the comparison of a single city where good results have been obtained with another city where the results have been almost as good. Yet, it does not take figures to prove the impossibility of attaining and permanently maintaining any very high degree of efficiency in an industry where the characteristic attitude of the men toward the management is one of distrust and hostility. There can be no doubt that if the Philadelphia Cooperative Plan or something similar to it, or at least something that produces the same degree of loyalty and zeal in the employes as appears to have been developed in Philadelphia, could be applied to the electric railways everywhere, a very long step would have been taken towards the restoration of the financial health and credit of the industry. A plan that would do away with absentee ownership and absent-minded operation would surely open the way for the restoration of the good will of the people, and that means money.

CHAPTER XXXIV

PUBLIC SUBSIDIES

If electric railway service, that is deemed essential to the public welfare, cannot be made self-sustaining out of its earnings; or if the community for other reasons deems it necessary to maintain street railway fares at a point so low that the revenues will not cover the entire cost of the service, it becomes necessary to make supplementary provision for the support of local transportation, either directly or indirectly, through contributions from other sources. In one way or another the cost of the service must be paid, and this is true whether the policy of private ownership and operation is continued or not. At the same time it is obviously more difficult from the political standpoint—and I use the term “political” in its broad, fundamental sense—to justify public subsidies for private companies operating for profit than to justify the subsidizing of a public function operated directly for the service of the community. If public subsidies are necessary, that fact constitutes a powerful argument for the complete elimination of private investments and private management from the electric railway industry. Indeed, in some of the states constitutional provisions have been adopted designed to prevent the state or the municipalities from subsidizing or lending their credit to any private corporation operating for profit. Nevertheless, the electric railway industry has fallen into such a condition that the question of adopting the policy of public subsidies is being widely discussed and seriously considered. The testimony of the witnesses before the Commission is full of the subject.

At the outset we need to determine what, in the case of the electric railways, constitutes being self-sustaining and what different forms public subsidies may take. It is not necessary at this point in the discussion to enter into the niceties of economics, finance and statecraft for the determination of the precise boundary line between a condition of self-support and a condition of public dependence in the case of a local transportation service. It will perhaps come close enough to scientific accuracy if we say that in order to be self-sustaining a street railway system must earn, in the form of compensation for definite services rendered, a sum sufficient to pay the entire cost of the service, including operating expenses, with proper reserves for depreciation, accidents, and other deferred liabilities; taxes and other public charges proportional, as nearly as may be, to the taxes and public charges imposed upon other industries: and the necessary cost of the capital actually and necessarily invested in the business. Stated in different words, this cost of service includes the maintenance of the complete integrity of the physical property, the provision for all operating costs attributable to the period of service, whether payment thereof is immediate or deferred, and the return upon capital which, under the conditions of the investment, will be

sufficient to maintain the necessary supply of capital. Perhaps the most elusive portion of this definition is that which relates to the compensation of the investors. To be a little more specific, the cost of service must include a sufficient return upon the capital already tied up in the business to satisfy the legitimate obligations incurred at the time such capital was secured, and also the offer of a sufficient return upon new capital to induce it to make itself available in adequate quantities to enable the street railway system to expand and improve its facilities as rapidly as public necessity and the obligations of public service may require.

In connection with our analysis of the various forms which a subsidy may take, we must distinguish public exemptions and cash contributions based upon a general consideration of the advantage to the community at large of maintaining local transportation service, from public appropriations made in payment for specific and measurable services rendered by the transportation systems. For example, a cash payment by the city for transportation furnished to policemen and firemen while on duty would not be in the nature of a subsidy, unless it was entirely out of proportion to the cost of the service rendered. In the same way, a cash payment to the street railway for hauling and delivering street construction materials, or for removing garbage and ashes, is not a subsidy, but a payment for definite services performed. It might even be maintained that a special tax or assessment upon improved real estate readily accessible to local transportation service and based upon the cost of readiness to serve might be levied by the municipality and the proceeds paid into the street railway treasury without our getting quite over the line into the field of subsidies. That would depend largely upon the definiteness of the computations of cost upon which the special levy was based. Indeed, if special assessments were levied to provide the capital cost of street railway extensions, on the same theory upon which pavements and other street improvements are often paid for by assessments for benefits, this could not be regarded as subsidizing the street railways, unless they were permitted to claim ownership of the property paid for by the assessments and include it in the capital account upon which they are entitled to earn a fair return from the rates. In a certain sense, it might be said that the electric railways are subsidized to the extent that they are given free rights of way in the public streets, but in another sense the street car may be regarded merely as a type of public conveyance well-suited to public needs and having as much right in the highway as any other vehicle. One's point of view with respect to this particular angle of the problem will determine what he thinks about the policy of exacting compensation for street railway franchises. If the street railways are not required to pay for the use of the streets, the privilege of using public property without giving specific compensation for it would be regarded by some as the equivalent of a subsidy. The same rules will apply to the use of free public bridges, viaducts, subways and other special structures that are a part of the highway, except that where streets have to be widened, bridges made stronger or other street improvements made more expensive for the specific purpose of accommodating street car traffic, many hold the opinion that the street railway company should either carry the extra investment in its own capital account or else pay an annual rental sufficient to cover the city's fixed charges on the extra

investment. For the purposes of this discussion I shall assume that the free use by the street cars of public streets, bridges, viaducts, subways, etc., where their use is free to the general public in common with their use by other vehicles and by pedestrians, does not constitute a public subsidy and, therefore, is not inconsistent with a condition of honorable self-support so far as the street railways are concerned. I shall assume that in paying the cost of the tracks and their special foundations and of the pavement in and about the tracks, the street railways are contributing everything that can be equitably required of them as a condition precedent to their free use of the streets. As we have already seen, many of the witnesses before the Commission went so far as to hold that the companies should be relieved of their paving obligations, not as a matter of special favor or emergency concession, but as a matter of right. Indeed, I am inclined to the opinion that theoretically the street railways ought not to be compelled to install the original paving except where paving in and about the tracks is made necessary by the presence of the rails, but that they should be compelled to pay a portion of the cost of maintaining and replacing the pavement to the extent of their use or abuse of it. This distinction leads to the remark that we here have a double-headed proposition. In some cases, no doubt, the street railway companies have been subsidizing the cities; in other cases, the tables have been turned or in the future may be turned. In brief, it may be said that a public subsidy is a special exemption or a direct or indirect cash payment for services that are not specific or definitely measurable.

In the proper sense of the term, therefore, a public subsidy may take the form of special exemptions from taxation or other public burdens, of a free contribution of capital, or of specific payments in the form of public cash or public services for general or community benefits derived from the availability of adequate transportation service furnished by the electric railways at their own expense.

The definite forms of subsidy usually suggested are: (1) relief from taxation, (2) a gift or loan of capital or credit, and (3) an appropriation from taxes or other public funds to make up current deficiencies in revenues below the cost of the service. In general, under a carefully worked out and thoroughly consistent service-at-cost plan, or even under the policy of unrestricted public regulation continuously and strictly applied, there can be no such thing as a subsidy to the electric railway companies, except where it is impossible for them at any rate of fare to be self-sustaining. With the exception noted, any subsidies granted and any contributions exacted by the public authorities will be passed on to the car riders, and the companies will neither be benefited nor hurt by them. Of course, this does not follow under any form of contractual relations not based upon the service-at-cost principle, and does not follow with any degree of exactitude where public regulation is applied intermittently or spasmodically.

The question as to whether or not, under existing constitutional restrictions, a real public subsidy can be granted to a privately owned or privately operated street railway is, in each particular case a question for the lawyers and the courts; but the question of the elimination or modification of constitutional restrictions is a matter of public policy to which we may address ourselves. Con-

stitutional restrictions have a certain fixity which makes it necessary that emergency plans should be accommodated to them, though permanent plans may be postulated upon their removal in due course. As we shall see, the way to public ownership is obstructed and progress in that direction is impeded, in many jurisdictions, by constitutional limitations upon municipal authority. Yet these limitations may not be as deeply entrenched in the political science of the American people as the restrictions that stand in the way of the adoption of the policy of granting public subsidies. It may not be practicable to remove these latter restrictions. In fact, while the undoubted tendency of constitutional and statutory development in the states is toward an enlargement of the powers of municipalities to undertake as public functions the standard modern utility services, there is no marked tendency toward the removal of the restrictions on public subsidies to private enterprises. I shall refer to the constitutional status of subsidies in New York and Massachusetts as illustrative, without having attempted to make a general survey of the states with respect to this subject. Section 9, of Article VIII, of the New York State Constitution provides that "neither the credit nor the money of the State shall be given or loaned to or in aid of any association, corporation or private undertaking." Section 10 of the same article provides that "no county, city, town or village shall hereafter give any money or property, or loan its money or credit to or in aid of any individual, association or corporation, or become directly or indirectly the owner of stock in, or bonds of, any association or corporation; nor shall any such county, city, town or village be allowed to incur any indebtedness except for county, city, town or village purposes." These rather sweeping prohibitions have not prevented the City of New York from entering into contracts under which hundreds of millions of dollars have been or are being spent in the construction of rapid transit lines leased to private companies for operation. Even though, in certain cases, the companies are furnishing a portion of the cost of construction and in all cases are required to supply the equipment at their own expense, and even though the city's investment in the new subways has to stand aside until the operating companies have been fully taken care of, the New York Court of Appeals has upheld these rapid transit agreements as not violative of the constitutional restrictions cited above. In New York, however, the subways are city-owned.

As indicative of the trend of public opinion on the constitutional aspects of the subsidy question, it is noteworthy that Massachusetts, as recently as 1918, adopted the following new constitutional provision:

"The credit of the Commonwealth shall not in any manner be given or loaned to or in aid of any individual, or of any private association, or of any corporation which is privately owned or managed."

Anent this new factor in the situation, the Massachusetts Public Service Commission, in its Sixth Annual Report, issued in January, 1919, at page xxxi, makes the following comment:

"The language of this amendment is very broad. It is at least a question whether the expression 'credit of the commonwealth' would not include the credit of integral parts, like the cities and towns, and no doubt it would cover financial aid provided through taxation as well as the actual borrowing of money. It would seem, also, that the language applies to indirect as well as to direct use of credit. If a portion of the cost of street railway service,

then, is to be borne by the community as a whole, or if community credit is to be used in the furnishing of capital, it would seem to follow that the companies must either be publicly owned or publicly managed, and perhaps both."

What the Massachusetts Commission thought of the need for subsidizing the car riders is clearly shown in the discussion leading up to the above. At pages xxix and xxx of this most notable report, the situation is summarized as follows:

"Summing up the matter, no one can view the present situation with optimism, or believe that the policies and methods now pursued are likely, unless general conditions change radically, to bring either good service or good credit, or to further the healthy growth and development of the community.

"It is far easier, however, to fix upon the goal to be reached than to point the way to it, much less difficult to know what ought to be done than how to do it. Briefly stated, the essential needs, from the standpoint of the future welfare of the state, are:

"(1) Restoration of credit, or some other means of providing the capital necessary to place the street railway properties in condition for first-class service.

"(2) Return to a basis of fares which will enable the railways to play their proper part in community life.

"The prime necessity is good service, and it cannot be had without rehabilitation and improvement. Next to good service is a system of fares which will make the service as useful as possible, and help rather than hamper the development of the community on healthful and economically sound lines. Massachusetts is not blessed with much natural wealth or with many geographical advantages, and other parts of the country are beginning to challenge her place in the commercial world. If it is to be retained, it will require the best possible use of her resources, foremost among which are her industries and her people. This means, among other things, the maintenance of good living and labor conditions. In this connection nothing is more important than cheap and good transportation facilities which will spread population, encourage living in the country districts, and give labor the mobility which the welfare of our industries demands.

"As we view it, present conditions in street railway transportation, and still more the conditions which are in sight, both as to service and as to rates, are opposed to the best interests of the state. The only alternative, however, is some plan by which a portion of the cost of service will be taken from the shoulders of the car rider and be met by some form of general taxation. This suggestion is radical, but, as above indicated, not wholly unprecedented. In the long run, poor transportation at high rates will damage the mill owner, the merchant and the land holder. In the long run, good transportation at low rates will operate greatly to their advantage. This fact lies at the root of our policy of state highway construction, and years ago it received clear recognition in the early days of steam railroad building, when both state aid and municipal aid were freely granted.

"It is necessary to look beyond today and into tomorrow, to balance future benefits against present burdens. What we are now suggesting is not very different from what the steam railroads for a long time have actually been doing. They sell commutation tickets at very low rates, not because there is any direct profit, but because they believe that it is good policy to do so, in the public interest and ultimately in their own. The burden is borne by freight and other forms of traffic. In the present instance, the street railways have no other business which can carry the load and, if a portion of it is shifted from the car riders, it must be borne by the community as a whole."

It will be remembered that Professor Charles J. Bullock, in his testimony, urged strongly the doctrine of "equal taxation," but admitted that in the present street railway emergency it might be proper to exempt the companies entirely from the property tax for a period of years, and depend on a net income tax to catch the lucky ones, if there were any such, which might be making money when the industry as a whole was in deep distress. Professor Bullock's views on the relative rights of the car rider and the taxpayer are set forth at pages 642 and 643 of the Proceedings, where he says:

"Under normal conditions it would seem that street car riders ought to pay just what the service costs, and not more nor less. If you exempt public utilities from taxation and give the riders untaxed service, you increase by so much the taxes that owners of property have to pay, and that is something that a city ought not to do and cannot afford to do under normal conditions.

"There are many demands for city expenditure. To fritter away your source of revenue by giving untaxed service, by granting exemptions which benefit the rider, is bad municipal

finance and it is not fair as between the car riders and taxpayers who are not necessarily the same people, or, if they are the same people, do not use the cars in the same proportion that they pay taxes. Our municipal taxes fall very largely upon real property, and that may be very largely owned by non-residents who get no benefit from the street railroad service whatever and never patronize it. Then even those that own property in the city and pay taxes there do not use the street railways in precise proportion to their ownership of property. Putting part of the cost of furnishing street railway service into the tax levy is not under normal conditions good finance. The proper theory would seem to be that of equal treatment of the industry with other property. It should not be burdened beyond other property in business; it should not pay tax less than other property in business. If you levy upon the industry of the electric railways taxes precisely like those levied upon other similar objects of taxation, you hold the balance level between the taxpayers and the car riders and you do substantial justice to all parties in interest and the correct theory seems to be that of equal taxation of public utilities under normal conditions.

"Now every general theory has of course certain limitations. The limitations to this theory of equal taxation are implied in the expression 'normal conditions' that I have used. In time of war when revenue is the paramount need, the Government may very properly levy a tax on transportation, as it has just recently done during the war. And similarly, in times when transportation facilities are needed and it is not practicable to get them in any other way, governments may properly offer exemptions from taxation, as they have often done. The exemption policy has been abused. Perpetual grants of exemption have been given which were never justified, but exemption for a limited number of years of companies undertaking public service enterprises which it is not likely can prove immediately profitable may be justified under special conditions."

At page 646 of the Proceedings, Mr. Warren asked Professor Bullock whether in his opinion, the present emergency is so great as to warrant extending to the companies at this time temporary relief from ordinary taxation. He got the following answer:

"Well, there are companies that are not earning operating expenses, and if a proper allowance for depreciation is made, of course, vast numbers of companies are not earning their operating expenses, and conditions are getting worse. That is, wages are rising and costs of materials and supplies have not begun to decline * * * * *

"Now, under those conditions we are likely to reach a point in Massachusetts where we have got not only to abolish taxes, but we have got to go down into our pockets and make up deficits if we are going to have street railway service."

Professor Bullock's view that a non-resident land owner who never comes around to ride on the cars gets no benefit from them and ought not, under normal conditions, to be taxed for their support is quite at variance with the views expressed by the Massachusetts Public Service Commission in its Sixth Annual Report from which I have already quoted. Its detailed comparison of the street railways to the public roads, and its argument to show the taxpayer's interest in adequate transportation facilities is full of significance. At pages xxiii to xxv of the report, it says:

"Primarily Massachusetts is a manufacturing state, and the percentage of mill and factory workers in its comparatively dense population is very large. The importance to such a community of an efficient and cheap means of local transportation is obvious. There is no other way of preventing congestion, maintaining good living conditions, developing the country districts, and adjusting the supply of labor quickly to fluctuating needs in the various centers. This is stating the matter baldly and inadequately, but a moment's thought will make it unnecessary to amplify.

"The community interest in transportation has already been recognized, in part. There was a time when private enterprise was relied upon in the case of ordinary highways. During the first half of the last century a multitude of turnpike corporations were chartered by the Legislature, with power to build roads between specified points and to collect tolls. Such turnpikes were constructed from Boston in straight lines to all the principal surrounding towns, and even Beacon Street was a toll road until 1868. Gradually, however, the collection of tolls was discontinued and the care of these turnpikes was taken over by the towns and counties. At the present time, our streets and highways are all built and maintained by public authorities, and the cost is carried by the community generally and is not assessed in proportion to the use which is made of them. No figures of total investment or total main-

tenance expense are available, but the original cost of state highways alone has been more than \$14,000,000, and the aggregate cost of city and town streets must be far greater.

"As yet, this principle has not been applied to the steel highways which the street railways use, although many more persons must be carried in cars over these highways than are carried in other vehicles over the public streets, and although the general community interest is in other respects very clear. Broadly speaking, street railways are just as important to merchants, to mill, factory and land owners, although they may never ride in the cars, as they are to the people who use them every day. It will help in realizing this to think of the situation which would arise if the railways should cease operation, unless some equivalent form of transportation were substituted. The fact has, indeed, been given an indirect recognition in practice, for there is little doubt that, when the railways were originally built, real estate owners and business men at times took their securities with little hope of direct profit, but in anticipation of the indirect benefits which would accrue from their construction.

"If street railways are a public necessity, like the highways, the schools and the drainage system—and they clearly are—street railway fares may be regarded as a form of taxation. In other words, it is now the policy to levy the cost of this public service upon the car riders alone through the fares which they pay, rather than upon the community as a whole through general taxation. Precisely the same principle might be followed in the other cases. For example, a road tax might be levied upon vehicles in proportion to size and mileage operated, or a school tax upon families in proportion to children in attendance; but it has come to be settled practice and belief that it is in the public interest not to assess the cost of these enterprises in such a manner, but to allow it to be borne by the entire community.

"There is no inherent reason why street railway service should not be regarded in the same light and treated in a similar way. If the streets are a benefit to the man who owns no vehicle, or the schools to the man who has no children, so are the street railways to the citizen who never uses them. The problem is really one of taxation, to be dealt with, not in accordance with mere custom or tradition, but in the manner which will produce the best results for Massachusetts. If the greatest good to the greatest number can be secured by continuing—in theory at least—to place the entire burden of the cost of street railway service upon car riders, objections are not in order; but, if this is not the case, the Commonwealth ought not to be deterred by mere prejudice or conservatism from following a different course."

Mr. Ralph S. Bauer, of Lynn, advocated free street car service on the theory, first, that the elimination of the machinery of fare collection and accounting would greatly reduce the total cost of the service, and, second, that local transportation benefits the business men and property owners to such an extent that they can afford to support it out of taxation. Mr. Frederick F. Ingram, a Detroit manufacturer, formerly a member of the Public Lighting Commission of that city, and a member of the Michigan Constitutional Convention of 1907, in which he was a leader of the movement for municipal home rule and municipal ownership, advanced the opinion that street railway fares should be kept down to a low figure and that the resulting deficiency should be made up by a tax on land values. At page 1124 of the Proceedings, he says:

"My opinion is that if you keep on advancing fares, you are not going to increase your revenue. At least, you will reach the point, and are probably very near to it now, in many instances, where with further increases you will not increase your revenue; so that you cannot look to that.

"The people must be transported to their work, and my idea is to charge a nominal fare without reference to whether it will pay the revenue. That would be inaugurated, in my mind, under municipal ownership, and I do not know whether it could be figured out under private ownership, or not; but under municipal ownership I do not see why a nominal fare could not be charged, and then the balance, whatever deficit came, be taken out of the values of the land, the site value that your street railway benefits; take a portion of that for the public treasury, to support the street railway that runs into this territory that is benefited by it."

A little further on, at pages 1125 to 1127 of the Proceedings, this suggestion is elaborated as follows:

"Mr. Ingram: My suggestion was that the passengers be charged a nominal fare without pretense of covering the cost of the service.

"The Chairman: What should that fare be?"

"Mr. Ingram: Well, 3 cents or 4 cents.

"The Chairman: With or without transfers?"

"Mr. Ingram: With the transfer. We are accustomed to transfers. That would make for tremendous trouble, to educate the people out of the transfer idea, at least in Detroit. Then the deficit, whatever it may be, should be assessed against the land that is affected by the service.

"The Chairman: How would you apply that to existing street car lines?"

"Mr. Ingram: By simply passing the money over to the treasury of the street car company and assessing it. In our city we are constitutionally compelled to assess our land separate from our improvements, buildings, and so forth.

"The Chairman: You mean the lands that are benefited by the street car lines?"

"Mr. Ingram: Yes.

"The Chairman: They are to be assessed each year to make up the deficit?"

"Mr. Ingram: For the preceding or following year; that is a bookkeeping proposition, what that deficit takes care of, either on an estimate or book showing. That would satisfy the street car riders, and values are created at both ends of the line and along the line by this public service and it is taking a portion of it to pay for the service.

"The Chairman: Then you believe that this deficit should be borne by property that is benefited rather than by the general public through taxation?"

"Mr. Ingram: Yes, I do. That is the general public so far as they own that land. That would not apply to the buildings, you know, the buildings are not benefited by the facility of travel, but the land is, and why should not it bear some of the burdens as well as the passengers on the cars? It would not create any great apprehension among the land owners, it seems to me, and it would be a satisfactory solution so far as the car rider is concerned.

"The Chairman: What fare are they charging there now?"

"Mr. Ingram: They are charging a straight 5-cent fare with the transfers.

* * * * *

"The Chairman: Under your plan with a 3-cent fare might it not be that there might be a deficit of two or three or four millions of dollars in the operation?"

"Mr. Ingram: There might be.

"The Chairman: And that would all have to be applied to the benefit of the property?"

"Mr. Ingram: Yes, sir.

"The Chairman: Would not that be a great burden to the property?"

"Mr. Ingram: I do not think so, no, sir. I do not think so.

"The Chairman: Have you ever attempted to work out a scale for taxation based upon your plan to see how it would affect property in Detroit?"

"Mr. Ingram: Yes, I have. I mentioned my suggestion advisedly because I had thought about those things. In London when they make a great improvement like opening a new street or widening it they do not assess that against the property of London but against the property that is benefited by extra condemnations.

"The Chairman: That is new construction?"

"Mr. Ingram: Yes, excess condemnation, that is construction, yes. But I do not see why the same theory would not work as works in operation in this country. In California the irrigation in dry counties is done on that basis. The cost of the irrigation waters and maintaining them and operating them is assessed pro rata against the property affected by it and it is very satisfactory to the property owners. And that theory applied to the railroads, I do not see any complications in the railroad proposition that are not equal to the California experiment.

"The Chairman: Has your proposition been discussed in Detroit?"

"Mr. Ingram: No, sir, not to any extent, I do not think.

"The Chairman: Do you know how the property owners look upon it?"

"Mr. Ingram: I do not. I could not speak for them. I only speak for myself. I do know that a good many I have discussed it with think that is a solution, but that is not a matter that has been discussed in a big way, you know, and brought out for discussion.

"The Chairman: I presume that on a referendum vote on that question the street car riders who do not own property or who may own property that is remote from the street car lines would all vote for that sort of a proposition, to get a 3-cent fare.

"Mr. Ingram: I think the property owners in a large measure would vote for it.

"The Chairman: You think they would?"

"Mr. Ingram: I do. I don't think that that would be received with much dismay by property owners that appreciate the value of good service, and of course primarily of the line itself."

It is noteworthy in connection with Mr. Ingram's testimony that the municipal ownership chapter of the Detroit charter adopted originally in 1913 by an 80 per cent affirmative vote, and reaffirmed as a part of the new charter in 1918 by a still more impressive preponderance of favorable votes, requires the street

railway commission to proceed to acquire or establish a municipal street railway system, and to fix the fares at a point where they will pay the full cost of operation, including taxes equivalent to what a private company would pay, and also interest on the bonds and amortization charges sufficient to pay them off within 30 years. This charter provision was first adopted in the pre-war days, but unless it is changed, Mr. Ingram's idea of charging a nominal fare and making up the deficiency of taxes cannot be carried out there even under municipal ownership.¹

In Massachusetts the subsidy idea has received formal recognition in the statutes of the state, though not to the full extent advocated by a number of the Massachusetts witnesses who appeared before the Commission. The Boston Elevated Railway Act, passed in 1918, brought the Boston street railway lines under the plan of public operation on a service-at-cost basis for a minimum period of ten years. The public trustees in charge are required to fix the fares at a point where they will pay the full cost of service, but in case deficiencies occur these are to be made up temporarily out of taxes and the payment of dividends is to go right on. In the first twelve months of trustee operation, from July 1, 1918, to July 1, 1919, the Boston Elevated Railway piled up a deficiency of \$4,980,151 of which \$3,980,151 had to be made up out of taxes. The other \$1,000,000 was supplied by the reserve fund. The next eight months, running through February, 1920, added about \$448,000 more to the deficit. Meanwhile the fare went to 7 cents on August 1, 1918; to 8 cents December 1, 1918, and to 10 cents July 10, 1919. The system earned a surplus during the months of October, November and December, 1919, and January, 1920, but in February it suffered a severe relapse into its monthly-deficit habit. The great dissatisfaction of the Boston public with the high fares led to a pronounced agitation for a law restoring the 5-cent fare and placing upon the tax rolls permanently the burden of any deficiencies that might arise under that rate. Upon the recommendation of Governor Coolidge, in a message dated July 23, 1919, the Massachusetts legislature established a special Street Railway Commission, with duties described as follows:

"It shall be the duty of the commission to make an investigation and study of the street railway situation in this commonwealth, with a view to determining what action may be required to promote the public welfare and convenience in relation thereto, what action should be taken for the purpose of securing lower fares, what portion of the expenses of operation, if any, should be borne by the public treasury and what means should be used for the purpose of providing adequate and low-priced transportation, and whether and to what extent public ownership is the proper solution of the street railway problem. The commission shall also consider the advisability of establishing fare districts on street railway lines, with a basic fare of five cents for each fare district established."

This Street Railway Commission, reporting on November 15, 1919,² recommends that the Boston Elevated Railway Service-at-Cost Act be amended so as to give the trustees more freedom in adjusting fares, and then goes on to say, at pages 32 and 33 of its report:

"If, then, the trustees are relieved from these conditions and are given a free hand in fixing fares, it should be provided that if a fare so fixed by them as adequate to meet the cost of the service is deemed by the communities to be higher than the best interests of the area served requires, then, for the purpose of securing lower fares, the cities and towns served may, with the approval of the Public Service Commission, contribute to the income of the road a sum that shall not exceed \$2 per thousand upon the assessed valuation of said cities and towns. The desire of said cities and towns thus to contribute shall be expressed

through a petition addressed to the Public Service Commission, said petition from cities being authorized by a vote of the city council, approved by the mayor, and said petition from towns being approved by a vote of the selectmen in each town. If any city or town in the community served shall fail within sixty days of the filing of the first petition to file a similar petition, then, upon conditions named in the bill suggested, a referendum vote shall be taken of all the people in the communities served.

* * * * *

"If the trustees continue to operate the road under existing conditions, and the measures of relief we recommend are adopted, it will result in relieving the road of subway rentals (including the Cambridge subway) amounting to a little less than \$1,900,000, and of bridge and paving burdens to the amount of \$250,000. This relief, aided by an increased use of the system, which accompanies a growing population, might enable the trustees to reduce the fare, but it must not be forgotten that under the terms of the act of 1918 the reserve fund of \$1,000,000, provided in section 5, must be made good if in any way depleted. The fund has not only all been used to meet the deficits in running the road, but a further sum of \$3,980,151 has been supplied by the Commonwealth and assessed upon the cities and towns in which the railway operates, so that before fares can be reduced, more than \$5,000,000 must be accumulated out of surplus earnings, to make good the \$1,000,000 of the reserve fund, with 30 per cent additional as provided for in the act, and to reimburse the cities and towns in which the road operates for the \$3,980,151 advanced by them. It must be concluded that this would make it extremely unlikely that fares can be materially reduced for some years if labor and materials remain at present prices."

It will be noted that these recommendations include the release of the Boston Elevated Railway Company, for the time being, from its obligation to pay rentals for the municipally-owned subways. This release would be equivalent to a subsidy, as the subways were built especially for electric railway operation, and they are not highways in the sense of being free for the use of other vehicles besides the street cars and rapid transit trains. The provision for a direct subsidy, from the communities served, for the purpose of keeping fares down is even more radical. Indeed, a similar provision is already in force in the Bay State Street Railway Service-at-Cost Act of 1918. Mr. Homer Loring, Chairman of the Board of Public Trustees now operating the Eastern Massachusetts Street Railway (the old Bay State system), explained this act to the Commission at page 1640 of the Proceedings. Among the features of the act is a provision by which the state guaranteed and thus made salable an issue of 6 per cent serial bonds up to \$4,000,000, of which \$2,500,000 have been sold at par. The act also authorizes any municipality served by the Bay State lines to come forward with a contribution "for the purpose of preventing increases in fares or of reducing fares or of avoiding discontinuance or reduction of service." The sum contributed for the expenses of any one year may not be more than fifty cents on each \$1000 of assessed valuation in a city or \$1 per \$1000 in a town. Within these limitations, the amount contributed may be "any part or all of the increase in the cost of operation due to increased wages or the cost of supplies or coal in excess of the average cost for the year ending July first, nineteen hundred and fourteen, as determined and apportioned by the trustees." These contributions were authorized for the period of the war and for two years thereafter. But the Bay State lines were given no actual guaranty by the state like the guaranty given to the Boston Elevated Railway Company. At pages 1651 and 1652 of the Proceedings, Mr. Loring says:

"I am a believer in the Elevated plan, in many instances. I believe in all large cities it is an admirable plan. Where the fare can, with reasonable certainty, produce receipts which will equal the cost of service, the guaranty should not be a serious matter, and of course, I am a believer in the fact that the taxpayer should properly contribute to a certain extent. I think in the Bay State that is going to be done generally by our cities there.

"I had the mayor and a committee wait on me the other day from one of our cities, asking whether there was anything to permit them to decide what fare they would pay, and then have the general taxpayer pay the balance; and they proposed to go before the legislature and ask for special legislation to do that. There is a feeling that has grown most rapidly,

"Commissioner Gadsden: I thought you had an act in Massachusetts along that line?"

"Mr. Loring: We have an act, Mr. Commissioner, which is a good start, but all that they can contribute is fifty cents per thousand for cities and a dollar a thousand for towns. The amount is enough to contribute enough to keep us from abandoning the lines, but it is not enough to affect the fares.

"Commissioner Meeker: What is this 50 cents a thousand and a dollar a thousand—what does it mean?"

"Mr. Loring: On the assessed valuation. Let me show you: It will mean, in Fall River, seventy-five to one hundred thousand dollars. Of course, that would not have a great influence on Fall River's fare.

"Commissioner Meeker: It means 50 cents per thousand dollars of taxable valuation?"

"Mr. Loring: Of taxable property, yes.

"Commissioner Gadsden: It really recognizes the principle, does it not?"

"Mr. Loring: They have recognized the principle and it has grown very rapidly in the last two years. Where you seldom met a man among thinking people, the taxpayers themselves, who felt it ought to be done, only a short time ago, now you find them everywhere.

"The trustees introduced in the last legislature a bill that we called the 'fifty-fifty' bill. It recognized the principle that the taxpayer ought to contribute, but it also tried to get away from what I think is a great mistake, to tell the car rider: 'You will pay five cents or six cents and then whatever additional expense there is the taxpayer will pay.'

"The fifty-fifty bill divided fifty-fifty the cost of service in excess of five cents. So that if it were ten cents the car rider would pay equal to 7½ cents and the taxpayer the balance.

"I would anticipate great trouble with the car riding public if it was guaranteed that its fare would be this amount and no more notwithstanding what the company spent. I think that is a great error; although I believe there is a strong feeling, particularly over in our community, that that should be done.

"That fifty-fifty bill had the support of some of the largest taxpaying corporations in the State of Massachusetts who believed that it was in the interest of their employes that fares should be kept down, and they were willing to pay something in addition."

At page 1653, Mr. Loring gives the sequel:

"Of course, the fifty-fifty bill was not passed by the legislature. They did not pass it. They turned it down. Since that time, however, people who argued against it there in the committees have come to me and said they felt that it was the only way that it could be done in cities of moderate size where it is perfectly evident you cannot get the cost of service out of the car rider."

The 1919 Street Railway Commission recommended a change in the Bay State law increasing the maximum amount which could be contributed by a municipality to \$2 per \$1000 of assessed valuation in any one year. The Street Railway Commission also recommended a provision for the creation of transportation areas for the public operation of electric railway service, in case the other measures of relief recommended should prove to be inadequate. The plan of control is described at pages 46 and 47 of the report as follows:

"When a transportation area is created, with the approval of the Public Service Commission, it will be operated under public control, which, in the draft bill we submit, will be exercised by the Public Service Commission through a local manager of the system. The Public Service Commission may fix such rates as it deems proper, subject to review upon hearing to be given upon petition. Any deficit arising in the administration of the road, including in the cost of service reasonable dividends upon stock at a rate to be determined by the Public Service Commission, shall be made up through the tax levy upon the communities served."

With respect to the indirect subsidies involved in tax exemptions the Street Railway Commission said:

"We believe that the principle underlying any recommendations of relief should be that no just tax upon street railway corporations should be removed merely for the purpose of an indirect subsidy. Subsidies should be paid as such and their true character should not be obscured."

State Senator John J. Walsh, a member of the Street Railway Commission, at page 1472 of the Proceedings, gives the Commission his idea of the benefits which would accrue from the adoption of a proper subsidy policy, as follows:

"As a matter of practical politics, I would have in all tax bills in the cities and towns affected an item called, for example, 'transportation subsidy,' so that the people would know just what they were paying for this service. This new item, representing a daily actual saving to each citizen, may be used to justify economy in other municipal expenditures, and make municipal administrators keen against waste and inefficiency. It will force economies in operation to keep down the tax rate.

"There are now no cheery riders on the Elevated, no cheery employes and no cheery managers. Everybody is sore and vindictive and they rail in vain against the wrongs of the irretrievable past.

"This has been commented on in your inquiries of Commissioner MacLeod.

"The 5-cent fare bill with the subsidy takes nothing from anybody and gives much to everybody. The soundest fare for metropolitan areas is the limit the public, mostly fairly disposed, will pay without reluctance."

We must not overlook the fact that all these Massachusetts subsidy schemes are based upon the assumption either of public operation or else of public ownership and operation.³

Mr. Lucius S. Storrs, President of the Connecticut Company, told of the voting of a subsidy by the town meeting to prevent the discontinuance of operation on one of his company's lines. Following the discussion in which Commissioner Sweet brought out the possibility of serious conflict of interest between communities fundamentally benefited by the uniform flat fare system and companies whose financial salvation depended upon the adoption of the zone system, Commissioner Gadsden asked Mr. Storrs if the solution of such a conflict of interest was not found in subsidies. The testimony at page 458 of the Proceedings follows:

"Commissioner Gadsden: Mr. Storrs, on this matter of the difference between a flat rate and the zone system, Mr. Commissioner Sweet wanted to know whether there was any compromise. Don't you think you have worked out the answer to it, or they have worked it out in Massachusetts that where the community prefers a flat rate of 5 cents, it agrees to subsidize the company for the difference?

"Mr. Storrs: There is no question about that.

"Commissioner Gadsden: That is the answer, is it not?

"Mr. Storrs: The complete answer is the subsidizing of the property. There is no question about that.

"Commissioner Gadsden: If the necessary revenue for a given piece of property had been properly ascertained, a community could very well decide, for sociological reasons, to keep a 5-cent fare, and enter into a contract with the company to put up the difference out of general taxation, could it not?

"Mr. Storrs: There is no question about it.

"Commissioner Gadsden: And in that way solve the question of the flat rate, if it be thought desirable to keep the flat rate?

"Mr. Storrs: Yes. If the theory on which so many cities have been developed has been a proper theory from the standpoint of the communities, the only way to get that is by proper taxation.

"Commissioner Gadsden: As a matter of fact, Mr. Storrs, is it not your observation that this solution of the community problem of America has been worked out by the electric railways at their own expense so far?

"Mr. Storrs: Absolutely. There is no question about that.

"Commissioner Gadsden: Therefore, if the American people are wedded to this system, would it not be proper that they should at least come in and pay the difference?

"Mr. Storrs: Unquestionably."

Further on, at page 463 of the Proceedings, Mr. Storrs discusses the possible effect of subsidies upon the movement for public ownership. Chairman Elmquist and Mr. Storrs have the following colloquy:

"The Chairman: * * * * Now, what will be the ultimate effect on the street car industry if this automobile industry expands as rapidly as it has in the past?"

"Mr. Storrs: Recognition by the community of the need of transportation and the subsidizing of it to meet that need. They are subsidizing the automobile utility now by paving and things of that sort, which they are offering them free.

"The Chairman: If you reach that point, will private capital be interested in investing in the street car industry?"

"Mr. Storrs: With a guaranteed return, I imagine it would.

"The Chairman: Well, if there is not a guaranteed return?"

"Mr. Storrs: No; certainly not.

"The Chairman: Suppose the communities are obliged to guarantee a return to the street car industry. Do you think that will conduce to the continuance of private ownership and operation of the utility?"

"Mr. Storrs: It is conceivable that there would be some method of recognizing that subsidy that would still give to the management of the industry and the investor a method of compensating them for their initiative and ownership.

"The Chairman: Do you believe it would create a very pronounced agitation for municipal ownership and operation?"

"Mr. Storrs: Conceivably so.

"The Chairman: Suppose we reached a point where communities must guarantee, or, rather, subsidize, this industry, do you believe that private ownership and operation or municipal ownership and operation should be preferred?"

"Mr. Storrs: I think that private ownership and operation would be preferable from all standpoints—from the standpoint of the investor, because it will recognize his energy and initiative in the constantly increasing return, and from the standpoint of the community in the certainly declining rate of fare, as compared with what would result if the municipality itself were to operate the property.

"The Chairman: Is there any experience in this country which would help this Commission to reach a conclusion upon that question?"

"Mr. Storrs: That I am not thoroughly advised of."

While Mr. Storrs seems to favor the subsidy policy, Dr. Thomas Conway, who has done considerable work with him on the Connecticut fare problems, is strongly opposed to it on principle. But both men shy at public ownership as a remedy. Dr. Conway's testimony on this point is found at page 964 of the Proceedings, as follows:

"The Chairman: Now, assuming that a great many commissions do raise rates, and that the people refuse to travel, and it does not bring in revenue enough to pay the operating expenses and fixed charges, then what have you got to do?"

"Mr. Conway: Then you have pretty nearly reached the end of private ownership and private operation of the business.

* * * * *

"The Chairman: Do you believe in public subsidy of a private corporation?"

"Mr. Conway: I do not. I think, in principle, it is vicious.

"The Chairman: Then, if these public utilities cannot maintain themselves, the solution is government ownership?"

"Mr. Conway: I would not go that far, but I do say we ought to give the matter of private ownership a thorough trial, and private operation. Let the initiative of the operator have free play. If he cannot work out a problem, then he has a property for sale. I do not think it makes any difference to him whether the buyer is to be the junkman, or whether it is going to be the municipality, if he is satisfied he is through and he cannot work it out; but that is the last resort, in my opinion, public ownership. I think a subsidy, in general principle, is bad, because I am a believer in individual initiative, and in giving a reward for efficiency, and in giving the railroads freedom to work out the best methods.

"Mr. Warren: But don't you think it may be of such importance to maintain the service that the company cannot work out its problem, and yet it is a case where the road ought not to be discontinued, and that in the interest of the public a subsidy might be advisable pending a determination of whether the public would in some way take over the property?"

"Mr. Conway: I think that is true; yes. In other words, during these critical days, in which, perhaps, discouragement may come, because a solution has not yet been found, it would pay the public to support the companies, at least for a sufficient period of time, that the entire problem be understood by all parties, and the most advantageous solution found, no matter what may be the solution determined upon."

In this testimony Dr. Conway seems to be looking at the problem exclusively from the point of view of the private investor. If the stockholders cannot make a go of the street railway business, then his interest ceases, and he sees no choice between the junkman and the municipality as a successor in ownership. Meanwhile, we'll swallow our scruples and take a subsidy!

Mr. James D. Mortimer brought to the Commission some important news from Wisconsin. Massachusetts, with all of its street railway investigating commissions, its extraordinary experiments and its radical predictions, has held the center of the stage so much during the last few years that the street railway policies of other states may have received less general consideration than they deserve. At any rate, what Mr. Mortimer describes as the legislative outcome of the transit situation in Kenosha, Wisconsin, appears to be a matter of unusual significance. At pages 782 and 783 of the Proceedings, he says:

"The Wisconsin Gas and Electric Company had indicated that it was unable to provide any additional facilities under the revenues and under the type of regulation which it had been experiencing.

"Local discussion arose as to the desirability of purchasing the electric railway. We never indicated any opposition to that, because we thought that would be a very good disposition of it. They called me to Kenosha to give them a price on it. I told them, in substance, that we had no objection to their buying it, and thought it would be a good thing, and then went on to try to sell it to them, but my efforts at salesmanship were very poor, because the more I talked in favor of the advantages of their buying it, the less they seemed to want it. The result was that they asked if there was not any kind of a proposition that we could make that would permit us to provide additional railway facilities in Kenosha by the investment of private capital.

"We then outlined the necessity of a municipal guaranty, and that led to the enactment in the closing days of the legislature of a municipal guaranty law, whereby municipalities can contract with utilities for extensions, for the loaning of municipal capital to public utility corporations, or for the guaranty of return, and profit sharing.

"I had indicated that, as a starter, we would require a guaranty of six per cent annual return upon the then investment of approximately \$500,000, plus the additional investment of \$500,000, roughly; that any returns earned in excess of six per cent should be divided forty per cent to the municipality, ten per cent to the employes, and fifty per cent to the company; that all restrictions with respect to the rates of fare should be eliminated; that the property should be operated to produce the maximum return by whatever scheme of fares was deemed to be advisable, and that the company should have the right to initiate the fares. The fundamental ideas were accepted. The original bill as drafted contemplated that this law should be applicable to all the cities of the state, which would have included Milwaukee; but the Governor limited it to cities of the third class, which included Kenosha and one other of our municipalities, Racine."

Referring to the guaranty contained in the Boston Elevated act and to the provisions of this Wisconsin law, Commissioner Sweet asked Mr. L. R. Nash, Stone & Webster's service-at-cost expert, certain significant questions about the effect of public guaranties upon credit. At page 690 of the Proceedings, the following discussion occurs:

"Commissioner Sweet: Where that can be done, Mr. Nash, I take it that the investment would be more certain than it would under the service-at-cost plan?

"Mr. Nash: Undoubtedly.

"Commissioner Sweet: If it is backed up by an organization, state or otherwise, that is solvent, so that investments would be more readily made and perhaps would be made at a lower rate somewhat by reason of the extra certainty.

"Mr. Nash: A materially lower rate, I think.

"Commissioner Sweet: If so guaranteed. So that if states had the authority, or communities, to make such a guaranty that would secure the investment more certainly than any other way that has been proposed, would it not?

"Mr. Nash: I think that is undoubtedly the case; the security would be greater, and the return demanded would be lower."

Evidently, the kind of a guaranty referred to in this discussion is the promise of a subsidy, if one is needed.

Before concluding this subject of subsidies, something must be said with respect to the contributions of capital made by property owners who put up the money for the construction of street railway extensions into new territory. Mr. John J. Stanley, president of the Cleveland Railway Company, refers to this practice in Cleveland as one of the causes for his company's comparative immunity from financial difficulties during the years when most other companies have been in trouble. At page 606 of the Proceedings, he says:

"Another thing; for the past five or six years, a great many of our extensions have been paid by the real estate men.

"Commissioner Sweet: Abutting owners?

"Mr. Stanley: Yes. They have assessed the real estate men, the abutting owners, one dollar to two dollars a running foot. That money goes to the railway company so as to make that extension, or help to make it.

"Commissioner Sweet: You mean where new extensions have been ordered by the council?

"Mr. Stanley: Exactly. Out in the country, where they want an extension to develop a certain part of the city, they come to us and say, 'We would like to have a road out there.' We will say, 'All right; how much can you afford to pay toward it?' And in five extensions that I can name we have been paid for it.

* * * * *

"Commissioner Gadsden: How much did the company put up?

"Mr. Stanley: Well, we have taken these extensions and put, probably, a single track through it, Mr. Gadsden, * * * where we were developing the territory, so as to have the traffic there when the time comes to lay the second track."

Mr. John A. Beeler indicated that in his experience it was not always advantageous for the company to accept lines constructed by the property owners. At page 1677 of the Proceedings, we find the following:

"The Chairman: There has been a good deal said here about credit, and you also have touched on that. Do you believe that it would be possible to inaugurate a system by which the benefited property and the public generally should pay for new construction of street car properties, or for extensions?

"Mr. Beeler: There is no doubt but what property values have been immensely increased by the construction and operation of street railways, and the property owner has been almost the sole beneficiary, except that the community is benefited by increased taxes on account of the rise in value of the property served.

"That is a very large question, as to who should pay for extensions and improvements. A great many lines have been built with subsidies, where in the past, they were subsidized by property owners, in order to build out in this district, and generally the property owners put the price of the property up so high that the development was so slow that the railway had been much better off had it never built the line. I know of a great many instances of that kind, myself."

Dr. Milo R. Maltbie, formerly one of the public service commissioners in the first New York district, discussed at some length this matter of the use of special assessments for the building of street railway extensions. At page 2099 of the Proceedings, he says:

"Whether there is anything in the special assessment idea which will immediately help out in this situation I am not entirely sure, but if I may suggest it, it seems to me it would be wise for you to call attention to this method of building extensions.

"Now, I know that is not the thing that street railway men are talking about at the present time very much. It is more a desire to make a return on what they have got rather than to make a lot more of what they do not like. But that is particularly apropos if there is going to be municipal ownership of the street railway lines with private operation or if there is going to be municipal ownership and municipal operation.

"Of course, the fundamental idea is that the special assessment idea, which has been applied to sewers and in some cases to water-works and laying out of streets and so forth,

should be applied to the building of new lines, and the justification of it is in my opinion particularly strong in the case of a transportation line because there is not anything that will develop the value of property if the lines are properly selected—there is not anything that will develop the value of the property so much as the transportation system.”

Dr. Maltbie then called attention to the fact that the construction of the original subway in New York had apparently caused a much larger increase in the value of the land adjacent to its two northern branches than the entire cost of its construction. At page 2100 of the Proceedings he calls attention to the fact that the underlying principle of special assessments had been recognized in the building of the railroads in the west. On this point, he says:

“Of course, you all recall that when the railroads were built in the west many of them were built not on the same plan, but under a plan which recognized the same ideas. Those towns voluntarily issued bonds to provide money to build the lines. Why? Because in those rural communities they foresaw the value of their farms would go up, so they could issue these bonds and pay for them and still have a profit left. There were some unfortunate instances where they tried to evade payment of those bonds afterwards, but the idea was recognized nevertheless.”

This special assessment plan is particularly adapted to conditions under public ownership. At pages 2101 and 2102 of the Proceedings, the question of its adaptability to conditions under private ownership is discussed as follows:

“Commissioner Wehle: Do you not think such a plan as that could be put into operation also when the public utility is under proper regulation in a case where you have private ownership and private operation?”

“Mr. Maltbie: Well, there is a sentimental factor there which is pretty important, even though it may be sentiment. Property owners or people generally do not like to contribute to something the ownership of which is going to pass to a private corporation. Now, if you could keep the ownership of that line in the municipality or something of that sort, you might meet that objection. But whether it works out well or not there is that feeling that they do not like to contribute to something which is going to be turned over to a private corporation.”

“Commissioner Wehle: Well, if you made it clear that the title to the improvement remained in the city and that the full right to use and operate over the improvement was in the street railway company under regulation, do you not think that by a campaign of education in which you would specially emphasize the fact that this arrangement enables the car rider to ride much more cheaply than he otherwise would, that such a plan as that could be put into use even where you have private ownership and private operation?”

“Mr. Maltbie: I think it is possible to work out a plan which would cover that point as well. Of course, you know many gas and electric companies have done very much the same thing with land companies where they own large tracts of land; they have made the land companies pay for the pipes and the wires, although the private company has kept the ownership and control of them. But, of course, that is dealing with a few men of large business interests and not with a multitude of taxpayers and voters.”

New York City has led the way in the direction of preserving the five-cent fare on its rapid transit lines through an indirect subsidy to the two operating companies. In the Dual Subway Contracts executed in March, 1913, after years of laborious and painful negotiations, the city established a partnership scheme under which both the city and the companies contributed large amounts of capital to rapid transit development. These contracts were based upon the theory that the new rapid transit lines should be owned by the city but operated by private companies. As the city did not have sufficient credit available under the constitutional debt limit to provide all of the required capital, it felt compelled to give the companies a preferred position in order to induce them to “piece out” the capital supplied by the city. In advance of their construction, the new rapid transit lines were leased to the companies for operation for a period of 49 years. Under these leases the companies were permitted to pay out of earnings all op-

erating expenses, rentals and taxes, and then to take for themselves preferentials based upon the amount of their previous profits, as well as a fixed return to cover interest and amortization charges on the new capital supplied by them to the joint enterprise, before the city would receive any return whatever upon the capital which it supplied for the construction of the new lines. The practical effect of this arrangement was to put approximately \$250,000,000 of public capital between the operating companies and loss, the principal consideration for this indirect guaranty being the agreement of the companies to supplement the city's capital with some of their own and to operate the city's rapid transit lines as extended at a uniform five-cent fare in conjunction with existing rapid transit lines, part of which were privately owned. At the time the Dual Contracts were executed it was thought that, barring the possibility of a few lean years immediately after the immense new system of rapid transit came into operation, the companies would be absolutely sure to earn their preferentials. In order to give them what both sides believed to be complete protection, these preferentials were made cumulative, with annual interest at 6 per cent on temporary deficiencies, compounded semi-annually.

After the contracts were executed and the new lines partly built, the war came on, with its enormous increase in the cost of construction and of operation. The estimated amount of capital required for the construction and equipment of the new lines has been largely overrun, and the increase in wages and in the price of coal and other materials and supplies has made a great difference in the operating ratio, with the result that even before the rapid transit lines covered by the contracts have been fully completed and put into operation, it is apparent that the companies cannot, at least for a long time to come, earn their preferentials, and that the city may not get anything whatever before the expiration of the contracts in 1968 or later, when the new rapid transit lines with their equipment will come into the possession of the city without further payment except for unamortized additions and extensions.

New York City, in spite of its enormous wealth, nearly broke its back financially by its pledges to rapid transit construction. This policy was undertaken after long deliberation as a part of the city plan to relieve congestion and, conversely, to promote suburban development and a better distribution of population. Now, at the very beginning of the period, under the changed conditions, the rapid transit companies are demanding an increase in the unit fare at least to eight cents. It is recognized that so long as the uniform-fare system is in effect, it would probably be futile to increase fares on the surface lines unless there was a corresponding increase on the rapid transit lines. The city has no financial interest in the surface lines, and the companies have no preferential privileges there based upon the use of city capital. As a part of the argument in favor of an eight-cent fare on the rapid transit lines, the companies are urging that this rate would make the city's investment self-sustaining and relieve the taxpayers from the burden which they now bear in the payment of interest and amortization charges on rapid transit bonds. Indeed, the bill prepared by the New York Electric Railways Association and introduced in the Legislature April 1, 1920, authorized the execution of service-at-cost contracts between the muni-

icipalities of the state and the electric railway companies, based upon the requirement that the fares should be sufficient to make the total investment fully self-sustaining.⁴

At the time the Dual Subway Contracts were executed in 1913, they were criticised by some of those who opposed them on the ground that the scheme of preferential payments to the companies would destroy the incentive to efficiency and economy on the part of the private management, and, in short, that the scheme combined the most important disadvantages of private operation and the most important disadvantages of public operation, without preserving the advantages of either. In the sequel, as a result of the entirely unexpected change in economic conditions growing out of the war, the rapid transit companies found themselves in a straitened condition even under these contracts, which at the time of their execution were regarded as very favorable to them. On the other hand, the city has thus far been able to retain the advantages of the five-cent fare but faces the certainty that if the contracts are unchanged the taxpayers will have to continue to pay the interest and the sinking fund charges on the city's rapid transit investment other than the investment in the original subway, as a means of preserving the benefits of the uniform low fare.

It is noteworthy that the New York Rapid Transit Contracts do not contain an absolute guaranty to the companies but merely a fixed contribution of capital upon which the city contents itself with a contingent return. The change in economic conditions has restored the companies' motive for economy in operation even under these contracts because even with the city's free contribution of capital the companies are hard put to earn the profits upon which their financial structures are based. It will be seen, however, that as soon as the companies felt the revival of the motives that are supposed to characterize private management they became dissatisfied because the subsidies they enjoyed were no longer effectual to relieve them of the fear of want. This situation tends to prove that under any plan of private operation with complete or partial private ownership the subsidy policy will not satisfy the companies unless it includes an effective guaranty of profits, and if it includes that, then it seems clear that the public can no longer depend upon private management to supply of its own volition the initiative for economy and efficiency which is claimed to be the characteristic advantage of private as compared with public operation; and the community under such an arrangement will have to depend upon the power of public regulation operating directly and from the outside to make a dead motive act like a live one.

It is clear that subsidies in one form or another will be necessary in many cases if the maximum usefulness of the street railways is to be preserved. And yet there are very serious objections to the policy of granting public subsidies to private corporations engaged in public service, especially where they take the form of making up deficits. There is no particular virtue in private management as such when the risks of loss are gone. Of course, in a pinch a private company might be granted certain exemptions or be given certain fixed contributions without its motive for economy and efficiency being entirely destroyed. In other words, the policy of giving limited assistance may be permissible, if care

is taken not to give enough assistance to put the companies on "Easy Street," or to *guarantee* them the return upon their investment. But this is merely saying that the public should be extremely watchful, exceedingly temporary and judiciously niggardly in the help it gives by way of subsidy under private ownership. But a niggardly and uncertain reward is not calculated to reduce the cost of capital, to stimulate efficiency or to insure adequate service. The subsidy plan is dangerous. The trouble with it is that it means clinging to the fetish of the superiority of private initiative after the motive for private efficiency is paralyzed or killed. At the Commission's very first public hearing, Ex-President Taft indicated in a direct and simple way the logical results of the subsidy policy. I quote again what he says at page 5 of the Proceedings:

"The public spends a great deal of money in keeping roads in condition, and those who do not have vehicles do not use the roads. It is contended that these electric railways only fulfil a function of the same kind, and that therefore the public ought to meet the deficit by taxation; *and if it does, it will naturally take over the management.*" (Italics are mine.)

In my judgment, public subsidies under private management are not the big remedy. Public subsidies may be necessary to the preservation of electric railway service in many cases, but if so, public management is also necessary, as Massachusetts has determined. I do not mean that certain minor helps which are really in the nature of subsidies may not properly be extended to the electric railways in an emergency even under private ownership and operation, but as for the policy of saying to the companies: "You go ahead and run the roads, and if a deficit occurs we'll pay it," there is no statesmanship in it.

CHAPTER XXXV

ABANDONMENT OF UNPROFITABLE LINES

It is probably true that the one subject with respect to which the greatest number of American cities have had prolonged and bitter controversies with the electric railway companies is the construction of adequate extensions to meet what the public considered the legitimate needs of the growing community. Undoubtedly some of these controversies have been stimulated on the side of the public by speculative real estate interests. It is obvious that the strongest company in the most favorable times might be bankrupted by an unlimited program of extensions dictated by groups of real estate owners. The extent to which overbuilding in certain parts of the country has been responsible for the low earning power and weakened credit of the electric railways has already been discussed in Chapter XIII of this report. It is also a well-known fact that in American cities generally the amount of street railway trackage is much greater in proportion to the population than it is in British cities. On the face of the matter, therefore, taking the country as a whole, it is doubtful whether the companies in this country could properly be charged with having been unduly dilatory in the building of extensions. Nevertheless the long series of fights in practically all the chief American cities over the construction of extensions proves beyond a doubt that the control of extensions and of the policy governing their construction has been and still is one of the chief bones of contention between the companies struggling to preserve and develop the earning power of their property and the municipalities struggling to satisfy the demands of their expanding population for adequate local transportation facilities according to American standards. These troubles have been in part due to the limited-term franchise policy that has prevailed in many parts of the country. When a company's franchise comes within a few years of expiration and it has no assurance as to what will happen to its property when the day of expiration arrives, conservatism in the construction of new lines is inevitable. Conditions like this have caused an infinite amount of trouble.

It may be that the exaggerated notions of the profitableness of the street railway business, shared alike, in former times, by the promoters, the investors and the public, have developed in the American urban mind an extravagant standard of public convenience. The tardy development of the city planning movement in this country and the rapid expansion of cities under the spur of an almost riotous individualism has, no doubt, resulted in many cases in an uneconomical development of cities. The failure to control urban development from the point of view of the general public welfare has resulted sometimes in the most extraordinary congestion of population and business, and again in a

patchy development that is very expensive, very ugly and sometimes not even conducive to public health. The electric railway is the city's handmaiden; its job is to wait on the public and to minister to its needs and caprices so far as they relate to facilities for "getting around." While the electric railway company no longer enjoys the advantages of a monopoly of transportation service to the same extent as formerly, it still has a monopoly of that particular means of rendering service. Monopoly in a public service undoubtedly carries with it public obligations. In the case of urban transportation service, the primary obligation of monopoly is to serve the community's needs not by giving a service restricted to lines that are individually profitable, but by serving the entire community and "taking the lean with the fat."

The American Electric Railway Association presented statistics to show that up to May 31, 1919, no less than 534.12 miles of single track had been dismantled and junked since 1915 by an aggregate of sixty-one companies, and service had been abandoned on no less than 256.58 miles of single track. Thus it was shown that during the war period 790.7 miles of track, or approximately 1.75 per cent of the total electric railway mileage of the country, had gone out of service. Undoubtedly, these abandoned tracks represented, on the whole, relatively cheap construction and scant equipment, and no doubt also they represented much less service than the average for a like amount of mileage. It can hardly be said that these abandonments were sufficient in themselves to prove the financial distress of the industry as a whole or that the suspension of the service on these few lines could effect much in the way of financial relief to the industry. Still, the right to abandon the operation of unprofitable lines has been suggested as one of the means of enabling the electric railways to survive. Even those who propose this policy recognize that in most cases its adoption would conflict with the public interest, and that it should be applied with caution. That the cutting off of unprofitable suburban service might prove the financial salvation of the companies in many cases was brought out in the testimony of Mr. Francis H. Sisson. At the same time, because of the predominant public interest involved, Mr. Sisson did not give this policy his unqualified approval. At pages 346 and 347 of the Proceedings, we find the following:

"Mr. Warren: You were asked something about abandoned lines, and I think you intimated that if a line was unsuccessful the people who invested the money ought to take the consequence, which I think as a business proposition is no doubt true. Is it not, however, a fact that there are a great many lines which are not earning even their operating expenses but the abandonment of which would work a very real hardship upon a considerable portion of the public?"

"Mr. Sisson: Yes. In answering that question I made that reservation, that unless the public interest was involved clearly. * * * * And I think that is a very important reservation which must be made there.

"Mr. Warren: And in such cases probably some method of public ownership or public support such as has been worked out in Massachusetts to a certain extent ought to be resorted to?"

"Mr. Sisson: Yes, it is entirely possible that the operation of that line creates tax values which are a distinct source of profit to the municipality which it could well afford to provide for through the maintenance of the line.

"Commissioner Gadsden: In that connection, is it not true that most of these lines that are unproductive lines that we refer to are tied in with existing systems?"

"Mr. Sisson: Yes.

"Commissioner Gadsden: And if the system could lop off the unproductive suburban lines in many cases the road could probably take care of itself?"

"Mr. Sisson: Yes, that is true in a good many instances.

"Commissioner Gadsden: And under the law they are not permitted to cut off those unproductive and unremunerative lines?"

"Mr. Sisson: Yes, that is true in New York City today.

"Commissioner Gadsden: If they could get rid of their extensions they probably could get along in many cases.

"Mr. Sisson: Yes, but it would be opposed to the public interest.

"Commissioner Sweet: Those extensions are maintained for the benefit of the public residing in those outlying districts?"

"Mr. Sisson: Yes.

"Mr. Warren: That situation exists in a great many places and it is a very important public question, and not one that affects the street railways alone. In some jurisdictions, in Massachusetts, for instance, the companies can abandon lines, but that does not change the public question of whether those lines ought to be abandoned and the public dependent on them left high and dry, and the industrial centers dependent on them be deprived of the support coming from those lines.

"Commissioner Sweet: Is it not true, Mr. Sisson, * * * * that street railway companies have reached out into districts that are not directly profitable and are performing now and have been for years a sort of public service for which the companies have received no compensation or not adequate compensation?"

"Mr. Sisson: That is entirely true; yes, sir.

"Commissioner Sweet: And is not that an additional reason for the public and the companies getting together now upon some general basis which will be fair and just?"

"Mr. Sisson: It certainly is. The public interest is greater than that of the corporation in many of those instances."

At page 16 of the Proceedings, Ex-President Taft suggests reorganization and the abandonment of non-paying lines as a remedy for the financial embarrassments of the companies. He says:

"To say the truth, I think one step is a reorganization of all the companies, and the power to give up unprofitable lines that ought never to have been built. That is going on in Massachusetts. There was a furore at one time in building all sorts of lines that never ought to have been built, and if the street railway systems of this country are to be saved, I think they have got to cut to the quick with reference to many lines that were unwise in their projecting, and that it is now unwise to continue, so that they may get down to a solid foundation, and then, from that on, make contracts with the public which shall secure a fair return on one side and proper service on the other; but of course that will inconvenience quarters where there is not the business to justify the railway, and will affect the price of property there; but I do not see how that result can be avoided."

At page 436 of the Proceedings, Mr. Lucius S. Storrs presented a tabulation to illustrate "the difference in the facilities afforded to American and European cities by electric railways." In this tabulation certain unnamed cities of Great Britain, with a total population of 965,000, were compared with the same number of cities in New England, having a total population of 1,085,000. The tabulation showed for the English cities 156 miles of track, and for the New England cities 695 miles of track. This gave a population per mile of track of 6,187 and 1,560, respectively. This tabulation showed that in spite of the low fares prevalent in the English cities their revenue per mile of track was \$16,767 as compared with \$13,314 per mile of track for the New England cities with which they were compared. Commenting upon this tabulation at page 436 of the Proceedings, Mr. Storrs says:

"The most significant part of that comparison is the fact of the population per mile of track. It is a picture of the whole British tramway conditions, slender accommodations, dense congestion, slow service, low fares and high earnings per mile."

At page 437 Mr. Storrs explained that his detailed experience was in connection with New England properties and that he could not testify as to whether or not the interurban systems in Illinois, Indiana and Ohio have been over-

developed. In his comparison with the British cities he had taken New England where the development is "between the small village and the small town into a larger city," and where population is more dense and the cities and towns closer together than in the Middle West. Commissioner Wehle brought out the fact that the English have no electric railway development similar to our interurban systems. From this point on the testimony at page 437 of the Proceedings is as follows:

"Mr. Storrs: No, that is true. And I was trying to bring out that very point, that had we not developed beyond the area of dense population we would not have reached the difficulties we have, but it was in the effort to serve the large community interest rather than the local civic interest that we have come upon these rocks, and that by a system of abandonment of lines and discontinuance of service we can find that measure of supplying the pedestrians which we can meet.

"Commissioner Wehle: The point is that the electric railway systems in New England by reason of their initiative have contributed a real social service to the cities by preventing congestion.

"Mr. Storrs. Yes. Take a great many small country communities, they are made up entirely of operatives in the mills in the larger cities and they are given that opportunity for a free life and the owning of little homes and going out into the country which would not have been possible if there had been no transportation facility of this kind.

"Commissioner Wehle: Has there been any indication that popular sentiment would permit of the discontinuance of the service?

"Mr. Storrs: I am afraid it is a question of necessity rather than popular sentiment when we get down to the point of income and outgo not meeting."

Mr. W. D. George, one of the receivers of the Pittsburgh Railways Company, expressed the opinion that it would be much better to increase fares on the system as a whole than to abandon the unprofitable lines, and that, in his opinion, the people would pay the increased fares when they were faced with the alternative of an interruption of service that is necessary to the communal life. At pages 303 and 304 of the Proceedings, he testifies as follows:

Commissioner Meeker: * * * * Would it be possible, or, is it advisable, to discontinue some of these outlying lines? You say that you serve eighty distinct boroughs, townships, and so forth. Would it be possible to economize in the service by cutting out some of these places, for instance?

"Mr. George: That, of course, is what we will have to do. We will have to reduce the service to the point where it will support itself, and that will no doubt result in some communities being without any service at all, but that would be an extreme case, it would seem to me, and it would be very unfortunate if we would have to resort to that.

"Commissioner Meeker: Well, it is a matter that we have to face. Some communities cannot support any street car service, and if service has been extended to that kind of communities, it would seem essential to cut it out, would it not?

"Mr. George: Oh, there is no doubt about that; but there is a certain amount of expansion and growth which is going on in a large community all the time, and what is taken in one year as a unit as unprofitable business may be developed within a short time to be the profitable business, and the question is whether it is not the duty of the company so to conduct itself that it will cooperate with the growth and development of the community. That is only possible if they can secure cooperation of the community in support of the public utility, and I cannot conceive of the people of any community being so blind that they are going to destroy a needed public service, and in the end they will have to respond in some way to the necessities of the public service. These street car companies are attempting to give that service.

"Commissioner Meeker: Do you think if you had an increased fare it would not be necessary to cut out the service in any community?

"Mr. George: I would far rather increase the fare than I would cut off that service, which is the lifeblood of the community. Why should we as administrators of a public service corporation move in the direction of destruction of property, in the direction of destruction of property values, and handicap community life? Can we not bring the lesson home to them rather by increasing the fare and telling the people what the situation is, and trying to get them to respond to it? That is my thought, and it is the thought that the receivers of the railway company are acting on. If the rate is 7½ and 10 cents, and we can

justify ourselves by the necessities of the situation, we need to offer no apology for making the attempt, and I believe the people will respond. I think this idea that you are going to destroy the revenues of the company by increasing the rate of fare is to a degree fallacious, and I think we ought to move in that direction, that we ought to move towards an increase in the rates of fare and towards the education of the public that they have to pay a fair return for the service which they are getting from the transportation companies.

"Commissioner Gadsden: And you believe that in the long run the people will pay the increased fare, do you not?"

"Mr. George: I do."

"Commissioner Gadsden: And it is simply a question of waiting? Can you keep going a long time?"

"Mr. George: You have to ask them to do it before they will do it. They won't say voluntarily, 'We would like to pay 10 cents rather than 5 cents,' but if they can be shown that the necessity of the situation is so great that there is no alternative, that they are face to face with a crisis, either the interruption of service which is necessary to the communal life, or pay the fare, I think they will pay the fare."

"Commissioner Wehle: Mr. George, you have been discussing this now from a public policy point of view?"

"Mr. George: Yes, sir."

Mr. James D. Mortimer, in response to a question by Commission Sweet as to whether he saw any means of awarding immediate relief to the companies other than an increase in fares, makes the following reply at page 816 of the Proceedings:

"Well, as emergency measures, it would be highly advantageous to the railway industry, if, first, the unremunerative capital and operating expense expenditures could be eliminated. I refer primarily to paving and the other contributions which street railway utilities indirectly make to taxes, sprinkling, etc.

"The second thing is to abandon the operation of the service over lines which cannot be made remunerative, or which cannot otherwise be supported.

"The third would be to impose a distance tariff plan on the outlying sections of long lines or lines of modest length, so as to increase the revenues and minimize the losses; and the fourth thing would be an immediate and large increase in the flat rate of fare. * * * *"

In Mr. John A. Beeler's program of possible operating economies, at page 1666 of the Proceedings, the following paragraph appears:

"Some non-essential, non-paying lines, especially those closely paralleled by other service, may be abandoned profitably. Frequently, however, such lines can be made to carry their operating expenses when run as shuttle lines or with one-man cars. After a line has been built and equipped it should not be abandoned except when it is impossible to earn operating expenses alone, as the interest on the investment will be lost in abandonment anyway."

Viewed purely from the standpoint of the companies, the wholesale abandonment of unprofitable lines might hold out some promise of immediate financial relief. But, as Mr. George and Mr. Beeler point out, the policy of abandonment needs to be applied sparingly. It is said that during the war the scrap value of rails was in some cases as great as their full original cost. When such conditions prevail a company can recover a considerable part of its investment in unprofitable extensions if the tracks are torn up. Under ordinary conditions, however, when a street railway is junked the investment is almost wholly lost. It is clear from the evidence before the Commission that the abandonment of electric railway lines on a large enough scale to make any material difference with the financial condition of the industry as a whole would entail great hardships upon the public, and, in fact, would involve the abandonment of the theory that the electric railways are to be relied upon as the principal means of local transportation in urban communities. When the abandonment of track means also the abandonment of an idea, it is necessary to consider the importance of the idea before suspending the service.

CHAPTER XXXVI

FINANCIAL REORGANIZATION

As a part of its case to prove the deplorable financial condition of a great industry, the American Electric Railway Association presented testimony showing that nearly 6,000 miles of electric railway track out of a total of 44,000 in the country were in the hands of receivers on May 31, 1919. Indeed, the letter addressed to the President by the Secretary of Commerce and the Secretary of Labor, under date of May 15, 1919, which resulted in the appointment of this Commission, called particular attention to the fact that already fifty or more urban electric railway systems were in the hands of receivers, and that the communities affected were among the most important. The Secretaries mentioned "New York, Providence, Buffalo, New Orleans, Denver, St. Louis, Birmingham, Montgomery, Pittsburgh, Memphis, Ft. Wayne, Des Moines, St. Paul, Spokane, Chattanooga,"¹ although it does not appear that the principal railway systems in all of these places were in receivers' hands. In their letter the Secretaries went on to say:

"Other large systems are on the verge of insolvency, for the industry as a whole is virtually bankrupt. The continued shrinkage in the value of hundreds of millions of electric railway securities held by savings banks, national banks, life insurance companies and by the public at large threatens to embarrass the nation's financial operations. Furthermore, the withdrawal of this industry's buying power, which is said to rank third in magnitude, involves the unsettlement of collateral industries, naturally entailing labor dislocation that will affect hundreds of thousands of employes."

During the period of active warfare, when no one could foresee with certainty the duration or even the final outcome of the struggle, it was clearly of the utmost importance that the nation's financial operations should not be embarrassed by the collapse of so enormous an industry as the electric railways. During that period many regulatory authorities felt that they were justified in granting to the companies emergency relief to an extent at least sufficient to enable them to meet their fixed charges and keep going without reorganization. It was recognized, however, that notwithstanding the changes in the cost of service the public could not afford to accept as a permanent policy of regulation the granting of increased fares or other forms of financial relief to meet the increased cost of operation and the increased cost of capital without reference to the relation between revenues and cost of service prior to the era of high prices. If the increases in prices had come at one time and had been entirely uniform, so that they could have been measured accurately in terms of the decreased purchasing power of the dollar, some uniform plan of temporary readjustment without too close an inquiry into the status of the industry in the past might have been feasible. It is a fact, however, that prior to the war the electric railways as a whole, at least so far as their rates were concerned, had not come to be a regulated indus-

try in the ordinary sense of that term. In general, though not quite universally, their rates had been established directly or indirectly as a result of bargaining and contract, affected in great measure by the standards of custom. Therefore it could hardly be maintained, except in a great public emergency where the reorganization of an industry would be a general calamity, that it would be proper to act upon the presumption that the rates charged for the service rendered prior to the era of high prices were just and reasonable rates, and that, therefore, during the era of high prices the rates should be increased to meet the proven increase in the cost of service. The adoption of such a policy would in effect be putting the seal of public approval and public guaranty upon the financial structure of an industry without a critical examination of it. In the case of the electric railways, it would be equivalent to the approval and guaranty of a financial structure notoriously built up through speculative manipulation that has occasioned one of the greatest civic scandals of American urban life.

Unless it be conceded that it is the duty of the public through the regulating authorities to keep the street railway companies out of receivers' hands and to save them from the necessity of reorganization, the whole question of over-capitalization, excessive fixed charges and past earning power has to be opened up. Indeed, it is clear that in some cases reorganizations and the scaling down of fixed charges would be inevitable even though all the public authorities concerned were to cooperate to the fullest extent in permitting the companies to increase their rates and to decrease their expenses. In other words, there are undoubtedly cases where it is not economically possible for the electric railways, at least on the basis of the present cost of service, to become self-sustaining. This is clearly shown by the testimony of various witnesses representing entirely different points of view. The matter has already been discussed to some extent in preceding chapters of this report.

The claim is often made on behalf of the public that in the aggregate the electric railways earned too much from the nickel fare in the pre-war days. The experience of Cleveland, Columbus, Detroit and certain other cities where the average fare paid per revenue passenger was far below 5 cents is cited as proof of this contention. The fact that electric railway companies were so generally over-capitalized and that in the process of consolidation in many cities extraordinary rental obligations were assumed practically in perpetuity is also cited in proof. The local authorities of New York City point to the extraordinary dividend paid by the Interborough Rapid Transit Company for a series of years up to 1918—even in that war year the dividend paid was 17½ per cent—and maintain that as the company is operating under a contract covering a long period of time the surplus earned during its years of unusual prosperity should be used to make up the deficits accruing at the present time. The company in rejoinder admits the fat profits of the past, but calls attention to the fact that a man cannot work on the strength of "last year's beefsteak," and alleges that no more can a transit company operate on a past surplus that has been distributed to its stockholders or otherwise dissipated. The issue raised is really a double one. In cases like that of the Interborough Rapid Transit Company very high dividends have been paid to the stockholders. In other cases, the operating companies, representing a con-

solidation of many properties, have paid out their earnings from year to year in bond interest and guaranteed rentals claimed by those representing the public to have been excessive. The Philadelphia Rapid Transit Company, the Public Service Railway Company of New Jersey, and the New York Railways Company and its predecessor, the Metropolitan Street Railway Company, are noteworthy illustrations of this contention.

Where earnings alleged to have been excessive have been accumulated in the form of a cash surplus or where they have been paid out in the form of cash dividends to the common stockholders, it may be quite possible for the public authorities to enforce the terms of their contracts, or, as one of the witnesses before the Commission put it, "insist upon their pound of flesh," and in such cases the companies may be able to weather the emergency, if it does not last too long, without going into bankruptcy. On the other hand, where the alleged excessive earnings have been distributed by the operating company from year to year in the form of bond interest and guaranteed rentals, the company is not in a position to withstand for any great length of time a shrinkage in its net income without defaulting on its private contracts, and perhaps submitting to the disintegration of its system. In a case of this kind, the question to be determined by the public authorities responsible for the enforcement of contracts or the fixing of rates is as to whether the disadvantages of the financial disturbance and of the possible disintegration of a unified electric railway system into its underlying constituent parts more than offset the advantages to be derived from the enforcement of the contracts or the preservation of a low unit fare. I am assuming in both of these cases that the potential earning power of the electric railway systems under consideration, if they are permitted to increase their fares and released from other public obligations, is sufficient to enable them to maintain their solvency without a financial reorganization and without a scaling down of their capitalization or fixed charges. In those cases where this assumption is incorrect, a reorganization is inevitable unless the public authorities are legally and politically able and willing to support the existing financial structure directly or indirectly by public subsidies. It is hardly worth while to discuss this latter possibility in cases where the railways fail to be self-supporting by reason of overcapitalization or excessive fixed charges.

To the extent, therefore, that electric railway systems have been financed beyond the possibility of self-support, it may be taken for granted that public policy will not step in to interfere with their reorganization, but the issue remains to be determined as a question of public policy with respect to the other companies. The public may insist that the companies draw upon the surplus of past years to help pay the current cost of service, or it may insist merely that the rates charged for the service be fixed at a point where they will cover the legitimate present cost of service without necessarily providing for the excessive fixed charges which the companies have voluntarily assumed. It may be urged with considerable force that where an electric railway company deems it necessary to break its contract with the municipality or the state, the public ought not to be required to dig down into its pockets to enable the company to perform its private contracts entered into in the processes of consolidation and financing,

particularly where those contracts run for 999 years, and were based upon conditions that have entirely changed. The problem is not without its difficulties, for it seems to be a generally accepted fact that disadvantageous contracts with the public authorities can be broken more easily, and with a better show of equity, than equally disadvantageous contracts with other corporations or private individuals.

In spite of the considerations advanced by the utilities in their appeal to the Federal Government for help in securing higher rates, and in spite of the considerations mentioned by the two Secretaries in their letter to the President, the witnesses for the American Electric Railway Association in most cases made no claim that the readjustment of the relations of the electric railway industry to the public should be based upon the protection of the outstanding securities. True, evidence was presented to show that these securities are widely held by just ordinary folks, as well as by insurance companies and other fiduciary institutions; but when it came to the suggestion of a definite basis for the fixing of electric railway rates, and the determination of the measure of public relief to be granted to the electric railways, very little was said about the par value of stocks and bonds.

It will be recalled that according to the special census report for 1917 the net capitalization of the electric railways in that year, including floating debt and real estate mortgages, amounted to \$5,056,554,324, made up as follows:

Common capital stock	\$2,012,189,294
Preferred capital stock	461,657,357
Funded debt	3,051,179,272
Real estate mortgages	7,197,895
Floating debt	166,592,228
Total	\$5,698,816,046
Less stocks and bonds of other electric railway companies and treasury securities	390,489,091
Net capitalization	\$5,308,326,955
Less investments in other securities and non-railway properties..	251,772,631
Net capitalization based on electric railways	\$5,056,554,324

The census report shows that the road and equipment account amounted to \$5,136,441,599, or an apparent excess of \$80,000,000 over the net capitalization. It shows also that dividends amounting to \$60,772,290 were paid at the average rate of 6.3 per cent upon \$958,305,905 of common stock, leaving \$1,053,883,389 of common stock upon which no dividends were paid. It also shows that dividends amounting to \$12,490,851 were paid at an average rate of 4.8 per cent upon \$260,055,512 of preferred stock, leaving \$201,601,845 of preferred stock upon which no dividends were paid. These two items together make a total of \$1,255,485,234 of capital stock which received no return. The census summaries do not show what proportion of the dividends and interest was paid upon the "stocks and bonds of other electric railway companies and treasury securities," so that we are unable to get the exact amount of the net capitalization upon which a return in the form of interest or dividends was paid. However, deducting the \$1,255,485,234 of stock from the total capitalization we get \$4,443,330,812 as the gross capitalization, including real estate mortgages and floating debt, upon

which a return was paid. The year 1917 may be regarded as a fairly normal year in the street railway business. The preceding year had been one of unusual prosperity, and the increase of traffic and revenues from 1916 to 1917 appears to have been about normal, while it was not until well along in 1917 that the street railways began to feel seriously the effects of the increase in wages and in the prices of materials due to our getting into the war. It would help materially in the determination of a just public policy with respect to the electric railway industry if the relation between the earnings and the true investment for the year 1917 could be ascertained.

In a loose way the capitalization of the industry, or its road and equipment account, or, in the case of Mr. Henry G. Bradlee, its gross capitalization and current liabilities, are referred to as a measure of the importance of the industry and of the capital invested in it. The figures of capitalization and true investment made available for some of the most important street railway systems of the country through official investigations of one kind or another seem to indicate that a total capitalization double the true investment value of the existing property cannot be regarded as anything extraordinary outside of the state of Massachusetts, where capitalization has been regulated for a great many years. A comparison of the figures representing capitalization per mile of track in Massachusetts with the corresponding figures for the country at large, points to the same conclusion. The figures are cited at page 14 of the Argument and Brief submitted by Mr. W. Jett Lauck on behalf of the employes, where he shows that the capitalization per mile of single track for the country at large, according to the Federal Census of 1912, was 82 per cent in excess of the capitalization per mile of track in Massachusetts. Upon the assumption that the Massachusetts capitalization is correct, Mr. Lauck reaches the conclusion that the aggregate overcapitalization of the electric railways of the United States in 1912 was approximately \$2,119,000,000. In our effort to fix upon an equitable public policy with respect to this problem of financial reorganization, the question as to whether or not this estimate of overcapitalization is reasonably close to the truth is one of tremendous importance. Mr. Lauck's analysis of the figures would mean a cutting down of the capital stock and funded debt of the electric railways in the aggregate to a 55 per cent basis. It will be remembered that 55 per cent was the basis upon which the capital stock of the Cleveland Electric Railway Company was recognized in the valuation used in the Tayler grant, inaugurating the service-at-cost experiment, and even at that the value of the company's unexpired franchises was put in at several million dollars.

Mr. James D. Mortimer, of the North American Company, and Mr. Francis H. Sisson, of the Guaranty Trust Company, witnesses for the American Electric Railway Association, expressed certain opinions with respect to the bearing of the "watered stock" argument upon the present problems of the electric railway industry. At page 813 of the Proceedings, Mr. Mortimer makes the following statement:

"Commissioner Meeker: What would you say in answer to the accusation that the street railways have been addicted to issuing watered stock, and that they have been trying to pay dividends upon water?"

"Mr. Mortimer: I would say, in the first place, speaking generally, it is an attack that

is made primarily for the purpose of confusing the issues. The figures that I have presented to you applicable to the Milwaukee Electric Railway and Light Company have no bearing whatever with respect to capital stock and bonded debt, but represent only the appraised value of the physical property, and if any one of such persons to whom you refer should say that the system can be satisfactorily operated and produce an 8 per cent return, a reasonable return upon the fair measure of utility capital, whereas we are only to operate it at a 2 or 3 per cent return on the present rate of fare, then I should tell him that he is losing his time, that he should be in the street railway business, and I have a job for him."

Mr. Sisson took the position that overcapitalization has not been at all responsible for the present situation, except as it has furnished a handle for hostile agitation. His testimony at pages 341 and 342 of the Proceedings is as follows:

"Commissioner Gadsden: Do you consider that the present condition of the electric railways in this country has been brought about by watered stock?"

"Mr. Sisson: No, I do not think it has had anything to do with it.

"Commissioner Gadsden: Can you conceive how the present economic situation which faces electric railways could have been produced by their issuing watered stock in times past?"

"Mr. Sisson: I do not think it has had the slightest effect on the present situation. If they had no stock issues at all the situation would be the same.

"Commissioner Gadsden: Exactly. As a matter of fact is not the situation which faces electric railways a question of getting enough revenue to operate?"

"Mr. Sisson: Absolutely, to pay their costs and pay the money charges, unquestionably.

"Commissioner Gadsden: Are not they faced with a situation which has practically for the moment wiped out all the value?"

"Mr. Sisson: Absolutely.

"Commissioner Gadsden: Bonds and stocks?"

"Mr. Sisson: In many instances.

"Commissioner Gadsden: Many instances of it?"

"Mr. Sisson: Yes.

"Commissioner Gadsden: So that the bad financial practices, if we choose to so characterize them, in the past cannot be held responsible for the present situation, in your judgment?"

"Mr. Sisson: Only in so far as they have been used as a text for the opponents of street railways to create agitation and public prejudice.

"Commissioner Gadsden: To prejudice the public mind?"

"Mr. Sisson: Yes, which has been done very extensively in certain communities.

"Commissioner Gadsden: But economically they have not had any effect?"

"Mr. Sisson: As a matter of economics, not at all."

That the position taken by Mr. Sisson in this particular matter is not altogether correct seems to be clearly established by the experience of the Indiana Public Service Commission, which was explained by Mr. Carl H. Mote, at that time its secretary, at pages 1086 and 1087 of the Proceedings, as follows:

"The Public Service Commission of Indiana has granted no increases in electric railway rates without a tentative valuation of the property involved. In some cases, we have had to face situations where fixed charges exceeded the normal return that would attach to the valuation as made by the Commission. In every case of this character we have been rather explicit in suggestions that financial reorganizations were necessary. The roads themselves, in a good many instances, have responded to these suggestions. We have reached a few properties also in merger proceedings and accomplished the same end. In the reorganization of the street railway companies of Indianapolis, the fixed charges were reduced more than \$300,000 annually, and the securities from \$25,000,000 to less than \$19,000,000. One of our larger interurban companies is now going through a friendly receivership, as a consequence of which outstanding securities will be reduced from \$18,000,000 to \$12,000,000. This is the only receivership we have had in Indiana.

"The Chairman: What is the process of reducing these securities?"

"Mr. Mote: If it is bonds, an agreement with the bondholders is obtained through the trustee and through an actual canvass of the bondholders to accept in lieu of securities which they hold at the present time securities of a new issue in a lesser amount than those previously outstanding.

"The Chairman: How about stock?"

"Mr. Mote: That same way. In the Indianapolis case some of the stock of the Indianapolis Traction and Terminal Company, which was the operating company in Indianapolis, was held by the Terre Haute, Indianapolis & Eastern Traction Company, which was an interurban property specifically and strictly speaking. The Terre Haute, Indianapolis &

Eastern had pledged this stock under a mortgage and there was an agreement reached by which that stock should be surrendered, within the company itself, and it was wholly voluntary, brought about at the suggestion of our Commission but nevertheless and finally it was voluntary.

"Mr. Warren: Mr. Mote, was that reduction to a figure that the Commission felt was approximately the value of the property?"

"Mr. Mote: In the case of the Indianapolis Traction & Terminal Company, or rather the Indianapolis Street Railway properties, we made a tentative valuation of the property and found that the value was anywhere between \$14,000,000 and \$16,000,000. We brought the securities down to \$19,000,000 and actually they will be subsequently reduced to about \$18,000,000, so that will answer your question, I think.

"The Chairman: Just one further question. If you fixed the value which you regard as the true value of the property at \$14,000,000, how do you permit a capitalization to be rewritten to \$19,000,000?"

"Mr. Mote: Well, this was in a merger proceeding and the law of our state provides that the securities issued in case of a merger shall not exceed the total of the securities outstanding, and anyway the law of our state does not permit us except in an incidental way to consider securities as a basis for rate-making.

"Mr. Warren: You consider the value?"

"Mr. Mote: We consider the value of the property."

The Indianapolis case appears even more striking, when we refer to the text of the Indiana commission's orders and to the reports of the three directors of the Indianapolis Traction and Terminal Company, who were designated to represent the public in working out a satisfactory financial program for the company. These three were selected, one by the Governor of the state, one by the Mayor of the city, and one by the Indianapolis Chamber of Commerce. After a few weeks of service, they resigned and submitted to the Public Service Commission individual reports of the reasons why they were unable to accomplish anything to help the company. The director designated by the Governor was Mr. Alfred F. Potts, Vice-President of the Citizens Gas Company of Indianapolis. Mr. Potts, in his report, stated that the street railway was burdened with fixed charges, and sinking fund payments amounted to 31.57 per cent of its gross earnings. With respect to these charges, he said:

"As these fixed charges are about double what they would be if the company were soundly financed, we have been unable to suggest any method of financing the company's needs."

He then described the operation of the sinking funds as follows:

"This plan, which takes \$120,000 a year from the company's income which should have gone into improvements and better service, was obviously devised for the benefit of the speculators in its stocks and bonds. These payments of \$120,000 per year must continue until 1933, while the company must pay interest on the full face value of the bonds. In other words, the city has to pay a rate of fare to enable the Traction Terminal Company to pay off \$11,000,000 of bonds and thereby enhance the value of its stock. These payments are made through the income received from fares. This means that the people of the city will in time pay off \$11,000,000 of the company's bonded indebtedness, leaving the stock freed therefrom."

Mr. Potts describes in some detail the deals through which the street railway capitalization was built up, and, in a supplementary memorandum filed with his report, makes the following statement:

"The men who did this organization work fifteen years ago paid no attention to real values. They calculated that the growth of the city would enable the company to earn certain profits. This prospective 'earning power' or 'franchise value' was capitalized and stocks and bonds issued against it for all they, through the market, would absorb. At the beginning it was a stock-jobbing rather than a street car enterprise, and has distributed several millions of dollars in interest and dividends on bonds and stocks which were founded chiefly on 'prospective earnings.'

"Now, my contention is that as the people in those days permitted this form of financing to go on and authorized the issuance of 'watered stocks' that they must now pay the price up to the real value of the property, even when it has been increased from the earnings. The holders of the stocks have the right to the profits if they can be made under the terms of the franchise as to rates and after a strict compliance with all its terms as to service to the public. But that under no circumstances of stress or emergency from war or other cause should the public be asked to pay a farthing beyond the franchise rate to any public utility to enable it to make good the 'prospectus' of its promoters who speculated in its stocks."

The Indiana commission had already acted under the emergency section of the state utilities law to suspend temporarily the rates of fare prescribed by the Indianapolis street railway franchise, and to permit the company to charge a straight 5-cent fare in place of the reduced-rate ticket fare stipulated by the contract. The company was now applying for a 6-cent fare, following the resignation of the public directors. The Indiana commission, in its order of December 28, 1918, refused to grant a further increase, and stated that the continuance of the emergency relief previously granted "is predicated upon immediate steps being taken for readjustments on a basis of reasonable fixed charges at least during the emergency period, and the re-building and re-equipment of the properties." The Indiana commission used strong language in describing the causes leading up to the company's financial troubles.² It said:

"The evidence shows conclusively that the present crisis in the affairs of this company has been caused directly by the diversion of its revenues for purposes hurtful of its well-being—the annual draining out of the treasury to meet excessive and parasitical fixed charges placed upon the company by early promoters. Always the goal under these obligations has been to pay excessive fixed charges that can not be justified by the evidence. Property and equipment have been permitted to depreciate—maintenance has been deferred, and service has been neglected, all in order that there should be no default in the payment of these excessive charges. These have been held sacred, while the fundamental obligation of service has rested lightly on petitioner."

Referring to the emergency section of the law under which it was acting, the commission said:

"It is inconceivable that the Legislature, in the enactment of Section 122, contemplated that the State should (1) guarantee, in times of emergency, values which never existed; (2) protect excess securities; (3) make good losses caused by negligence in collection of revenues; or (4) reward a lack of thrift in times of prosperity."

Its order, continuing the straight five-cent fare as emergency relief, is concluded as follows:

"It is Further Ordered, That, as soon as possible, special meetings shall be held of the several groups of bond and stockholders of petitioner and allied and underlying companies, for the purpose of considering and voluntarily acting in the matters of: (1) the emergency that faces all of these individually and collectively; (2) their several lease, rentals, and franchise obligations; (3) reduction of underlying indebtedness by retirement of bonds already purchased and held in sinking funds, thus reducing fixed charges, suspension of future payments into sinking funds, and the use of thus suspended payments for purchase of modern equipment and rehabilitation of their individual and collective properties so that these companies may meet and discharge their franchise and lease obligations as to maintenance of property and service; (4) reduction—at least during periods of emergency—of excessive fixed charges tending to impair the service which all are obligated to render the city and its people; and (5) all other matters that should come before said groups of bond and stockholders in order to meet new, and more or less permanent, conditions created by the war; and it is suggested that these several meetings be called for the same dates and same city so that general conferences, if such may be found by the diversified interests to be desirable, may be held.

"It is Further Ordered, That continuance of relief herein granted shall be contingent on substantially improved service, collection of earned revenues, reduction of overhead and general expenses, discontinuance or reduction of present sinking fund demands and readjustment of interests and affairs of all parties having interest and franchise obligations in

the matter of street railway operation in the city of Indianapolis, to the end that, at least during periods of emergency, fixed charges and other such obligations shall not continue to make unreasonable demand on the revenues yielded by the traveling public in consideration of good and adequate street railway service."

I have cited the Indianapolis street railway case at considerable length because of its importance in connection with the testimony before the Commission with respect to this matter of financial reorganization as a suggested remedy for the troubles of the electric railways. In this connection, also, reference should be made to Mr. Roger W. Babson's testimony already quoted in Chapter XXII of this report, where in response to questions by Commissioner Gadsden, he states that the shrinkage in the values of street railway securities has been for all of the street railway bond issues of the country about 25 per cent and for all the stock issues about 75 per cent, and further states that this shrinkage in the value of securities "amounts to over a billion dollars." While Mr. Babson does not state specifically the period within which this shrinkage has taken place, it is apparent from the context that he refers to a shrinkage that has taken place within the past five or six years. It will be noted that in the total capitalization of the electric railway companies reported by the Census Bureau for the year 1917 the ratio of stock to funded debt was approximately as 5 to 6. If we confine ourselves to securities upon which a return was paid, the amount of stock drawing dividends to the funded debt was approximately as 2 to 5. On this basis the total shrinkage of value described by Mr. Babson would figure out about 40 per cent on stock and bonds together, and assuming that the shrinkage amounted to one billion dollars, this would mean that the market value of all electric railway stocks and bonds at the time of Mr. Babson's testimony was approximately one billion five hundred million dollars as compared with two billion five hundred million dollars before the shrinkage began. These figures would be increased in proportion to the extent to which the shrinkage was "over" a billion dollars.

The Proceedings do not disclose the extent of the investigation referred to by Commissioner Gadsden at page 1067 of the Proceedings upon the basis of which Mr. Babson testified, and when the significance of the testimony was subsequently called to Mr. Babson's attention in a letter from the Executive Secretary, he threw no further light on the subject. Suffice it to say that the figure two billion five hundred million dollars as representing the market value of all electric railway stocks and bonds before the shrinkage began is a long way from the claimed investment in the industry with respect to which figures from five billions to seven billions were used by various witnesses before the Commission. Upon this point as to the relation between capitalization and value, I call attention to the testimony of Mr. Francis H. Sisson, at pages 333 and 334 of the Proceedings, where, in answer to questions by Commissioner Meeker, he discusses the matter of investment out of earnings and the extent to which the physical property of the electric railways may have been built up to absorb the admitted overcapitalization of the early days. His testimony follows:

"Commissioner Meeker: You spoke of the practice in financing street railways in times past whereby stock was issued, not for a money payment, but as an inducement, as a bonus, to bond buyers. Do you think the street railways now represent in their physical properties value equivalent to the outstanding bonded debt and stock?"

"Mr. Sisson: Well, I cannot speak accurately about that. * * * * I should be surprised, if under their present earning power—because earning power determines value—I should be surprised if their value equaled their capitalization. I do not believe it does, including stocks and bonds.

"Commissioner Meeker: When you speak of value, do you mean the value of the physical property?"

"Mr. Sisson: No; I was speaking broadly of their whole value, because it is the entire value that is capitalized. For instance, franchise values are capitalized, and are taxed in New York State definitely as property, and in other places, I have no doubt, and are distinct value, provided there is earning power to warrant it. The taxation of franchises in New York State was based upon the theory that earning power derived from franchises was a legitimate source of public taxation. Now, if that earning power does not exist, the value does not exist. In other words, common stock values in most street railways were based upon franchise values and earning power, and not upon physical values. I do not believe the physical value of the railways, while I am sure it is greater than the bond obligations, has yet reached the point where it absorbs stock obligations.

"Perhaps I can give you a better analogy of it in the railroad field. One of the great public fetishes today is that railroad stocks are watered, but the sober fact is, as any student of the situation can determine, that the probabilities are that the physical value of the railroads today is something like \$1,500,000,000 in excess of the capitalization. That was not true twenty-five or thirty years ago, but out of earning power the railroads have put back into the property, year after year and year after year. For instance, the Pennsylvania has put back something over three hundred million dollars out of earnings into property values. The New York Central Lines built their Chicago terminals out of the surplus earnings on the Lake Shore, and that has been true of many of the big railroad lines. To a lesser degree, that is true of the street car lines, but they have not yet reached the point where they have absorbed their overcapitalization, if you may call it such.

"Commissioner Meeker: What, in your opinion, should be done with investments out of earnings in that fashion? Are they the property of the street railway companies upon which they are entitled to a reasonable return?"

"Mr. Sisson: In my judgment, yes, because that is the practice in every business in the world, and I do not know any reason why investors in street railway securities should be discriminated against. It is true of every industrial activity. Henry Ford starts a factory with a few thousand dollars, and today he is worth hundreds of millions out of earnings, and we all pat him on the back and say 'A wonderful job.'

"Mr. Warren: And buy Ford cars without any protest.

"Mr. Sisson: Yes, sir; and pay the price that enables him to make those profits, and I do not know of any reason why we should discriminate against our public service corporations for having, in their limited way, done what the industrial corporations and financial institutions and every other class of business do without protest. In other words, it is the legitimate reward that comes to business venture. That has been true according to all of the old theories of doing business. We may change that in the future.

"Commissioner Meeker: You think that public opinion has not changed in reference to public utilities?"

"Mr. Sisson: I think it has to a certain extent. I think it has been becoming definitely socialized in a great many places."

Further on, at pages 338 and 339 of the Proceedings, in answer to questions by Commissioner Sweet and Commissioner Meeker, Mr. Sisson takes the position that the fate of outstanding securities must be determined by a valuation of the property and an equitable arrangement between the companies and the public. His testimony follows:

"Commissioner Sweet: Have you considered this phase of the question: In the early days you said the 5-cent fare more than compensated, so that we will assume in most cases their dividends were paid to the holders of common stock. And then the interest as agreed upon was paid upon the bonds or preferred stock. Now, if the 5-cent fare named in the original franchises produced more than enough to meet those requirements, so that a certain part of the nickel could be devoted to extensions, is not that evidence to your mind that the nickel as it was originally agreed upon between the companies and the municipalities was more than it ought to have been?"

"Mr. Sisson: In some instances that is undoubtedly true; yes, sir.

"Commissioner Sweet: Now, if in the future or under the present situation the public is to be asked to provide a direct or indirect form of guaranty upon profits from this time on, is it fair that the public should be asked to pay more or to allow more by reason of the companies having had the advantage in the earlier stages of this proceeding?"

"Mr. Sisson: I should say that is a matter of equity in which you could hardly make

a flat ruling. I think there are instances when the public should allow those values to accrue to the stockholders. There may be instances where those values are greater than they ought to be in the public interest. I do not believe you could generalize on that subject, sir.

"Commissioner Meeker: That could be taken care of in the process of valuing the properties?"

"Mr. Sisson: Absolutely, and that is what I have had in mind.

"Commissioner Meeker: You think that is the way it should be taken care of?"

"Mr. Sisson: I do.

"Commissioner Meeker: And an equitable arrangement be made whereby this business which is in a bad way now can go on without obligating the public to pay more than it ought to pay?"

"Mr. Sisson: Exactly, I think that is a pure matter of equitable arrangement between the public and the owners, in the fixing of values."

Some of the most extraordinary testimony found in the entire Proceedings is that given by Mr. J. K. Newman, a witness for the American Electric Railway Association, in his discussion of the problems of reorganization. As a street railway promoter, engineer and banker, Mr. Newman appears to have had wide experience with street railways in the south, having been interested in the New Orleans, Birmingham, Knoxville, Nashville, Little Rock, St. Louis and Dallas properties. He testified that within a year he had been connected with the putting of half a dozen properties into receivers' hands in the process of reorganization. As the numerous quotations from his testimony already made have in part shown, Mr. Newman favors a service-at-cost plan with a 10 per cent return upon the capital value and with a 10-cent fare, if necessary, as the proper solution of existing electric railway difficulties. He does not think that it would be wise for the electric railways to complicate the issue by laying claim to exemption from taxation and relief from paving obligations, knowing full well that under the plan he advocates, street railway taxes and paving burdens would be definitely included in the cost of service and would be passed on to the public in the rates. He frankly recognizes the fact of overcapitalization and takes the position that the public must be convinced that the hocus-pocus methods of the past have been forever discarded. His service-at-cost plan involves a valuation of the property. His reasons for having an interest, notwithstanding that fact, in the amount of securities to be issued are explained at pages 573 and 574 of the Proceedings, as follows:

"Commissioner Meeker: The thing that I am really interested in is the outstanding capital, whether bonds or stock. Are you much concerned with the control of the issuance of such securities? What I mean is this, does it make much difference whether such securities be controlled by a commission as long as you are limited to a fair return upon investment?"

"Mr. Newman: That is correct, but you must put—let me explain this. It does not make any difference under this plan we are discussing what the securities are out against the property, whether bonds or stocks. I say ignore it absolutely and let the security holders fight that out among themselves. The authorities have nothing to do with that capitalization and ought to ignore it entirely, except for one reason. The roads must be financed in the future, and you must have a sound financial plan by which you are going to float your securities at the lowest possible rate in the future. Except for that one reason the city authorities are not concerned as to what amount of securities is outstanding, whether bonds or stocks.

"Commissioner Meeker: You think there should be some public control of the issuance of securities so as to protect the credit of the street railway company?"

"Mr. Newman: Absolutely.

"Commissioner Meeker: So it can get the capital it needs at the lowest rate of interest?"

"Mr. Newman: Yes, and I go further than that. I say that before the cities make these new concessions, this new franchise arrangement with the property owners, they should demand that they fix up their capitalization in such shape that they will not only have secur-

ities that can be sold to take care of the properties in the future, but that will take care of them in a way that will do it at the lowest rate of interest. You have got to reestablish the credit for these roads and in my judgment you cannot do it without a complete financial reconstruction, and the cities are interested that that reconstruction takes place.

"The Chairman: Which would require reorganization of the company?"

"Mr. Newman: Yes.

"The Chairman: Throwing out all the old stock and reissuing new?"

"Mr. Newman: Yes."

Mr. Newman hopes, however, to save something out of the wreck for the common stockholders, except in the most extreme cases. He explained his plan with considerable hesitation. It is this. By getting a valuation of the property and by securing a 10 per cent allowed return upon it, a street railway can take care of bonds and preferred stock, the par value of which will be equal or nearly equal to the entire value of the property, but it will still have left out of its 10 per cent a handsome surplus over and above the bond interest and the preferred stock dividends, with which it can reward the present common stockholders or their residuary legatees in the reorganization. Mr. Newman's testimony, at pages 575 to 579 of the Proceedings, is a story of absorbing interest. I quote it in full as follows:

"Commissioner Gadsden: Mr. Newman, referring to what you said about the public authorities having no concern with the capitalization of these companies, do you not think that consideration would probably have to be given by public authorities to the innocent holders of these securities that the bankers and street railroad people to whom you referred issued some twenty years ago? What is going to become of the innocent third party, we will say, who is holding some millions of these securities now? Is the public conscience going to stand for just depriving these people of their property? They did not do any harm, did they? They bought them from bankers, we will say, in the ordinary course of business. Now, are you going to take the position before this Commission that those people's property, widows, orphans, trust companies and savings banks—that those securities are going to be sacrificed because twenty years ago a lot of bankers issued watered stock and inflated securities?"

"Mr. Newman: Now I am going to say yes, but with a tremendous qualification.

"Commissioner Gadsden: I want the qualification, that is what I am after.

"Mr. Newman: Yes, I am going to give you that.

"Commissioner Gadsden: Before you go ahead, here is the thought in my mind. I want you to get my full thought. If this confiscation were carried out, would not that of itself still further destroy credit on the part of investors in any security which the public had control of?"

"Mr. Newman: All right, I want you to get what I am saying and get it very carefully. I have taken the position in all of our reorganizations that the bondholder who wants to exercise his full measure will have to work without me, I will fight him to a finish; that the securities in the first to the tenth position are all part of the system, and when the reorganization comes I want all of them to be dealt with fairly so that no one security holder can get advantage of this new city contract to the detriment of the other. I do not mind confessing to you that part of the scheme that I have in my mind is to withhold this franchise right from the bankers or from any class of securities and make them adopt a reorganization scheme. The basis of that is sound, because it must take care of future financing and it makes them deal with all classes of securities and agree upon a reorganization. Now in some instances, take the New Orleans case, where the common stock of \$20,000,000 is absolutely worthless, there is no chance for that stock to have any intrinsic value whatever.

"The Chairman: Is that stock all water?"

"Mr. Newman: Yes. It is going to work a great hardship on some people, but is—

"Commissioner Gadsden: Then it is all held in New Orleans, is it not?"

"Mr. Newman: No, there is a holding company, but there is some minority interest outstanding. I am very sorry for those people, but you cannot bring that into this problem. But there is another way of throwing equity to those common stockholders. Take the case of St. Louis, Detroit and New Orleans; St. Louis has a 4 per cent bond which matures in 1934; New Orleans has a 4½ per cent bond maturing in 1934, and Detroit a 4½ per cent bond maturing in 1934 or 1935, all about the same period. The St. Louis bond is selling at about 55, the New Orleans bond is selling at about 67 and the Detroit bond is selling at 76. Now, if you precipitate these reorganizations these fellows who hold those bonds who have made a loan for 15 years are going to come in and say, 'Give me my money now.' A dollar

at 4 per cent payable in 15 years is not worth par today. So when you get this valuation of the property, take St. Louis with \$12,000,000 underlying and \$30,000,000 4's, with \$30,000,000 of bonds. That \$30,000,000 of bonds has got to be converted, say, into a 6 per cent bond which would give it ultimately 66 $\frac{2}{3}$ per cent value, and you cut \$10,000,000 out of that and that \$10,000,000 capitalization moves down. And the fair bankers who are in this reorganization are not going to demand their pound of flesh on these strangle-hold securities at the top, but are going to pass the equity all the way down, and if they attempt to do otherwise they are the ones you want to complain about, they are the ones who will be to blame. Is that clear?

"Commissioner Gadsden: I am looking at it now and the Commission is going to look at it from the standpoint of the public and not from the railroad company or the holders of the first securities. I am asking you from the standpoint of the general good of this great public, have we not got to take into consideration a situation where there are millions of securities in the hands of innocent third parties? The same is true of the steam railroads, is it not?"

"Mr. Newman: Yes.

"Commissioner Gadsden: Do you think this country can face the catastrophe of wiping that stock out altogether? Do you think your banking system would stand that?"

"Mr. Newman: Well, you are putting a question to me that is not going to be a real one. I am quite an optimist on the street railroad situation because I believe in the fairness of the American public and I believe they are going to come around and straighten it up for us when the time comes that we get on a right basis.

"Commissioner Gadsden: But they have to have your help and that of others to do that.

"Mr. Newman: But the bonds that are in the trust companies and insurance companies and so forth will be taken care of. It is only the watered stocks in most instances that will be affected and they will get some by virtue of their voting power and control, and the fair banker is going to pass a little of the plum all the way down; there are going to be several bites of the plum.

"Commissioner Gadsden: That is true, but is it not true that a lot of that admittedly watered stock has gone into the hands of innocent people?"

"Mr. Newman: Yes.

"Commissioner Gadsden: What are you going to do about it?"

"Mr. Newman: Well, it is very unfortunate, but I think some of them will have to take their loss. I hate to say this, but it is necessarily true.

"Commissioner Sweet: Did you not say that in getting the valuation of these properties you thought that the question as to what it would cost now to replace them ought to be taken into account?"

"Mr. Newman: Yes.

"Commissioner Sweet: To replace rails and cars and electrical equipment at the present prices would mean a tremendous addition, would it not, or produce a tremendous excess over the original cost?"

"Mr. Newman: Yes, but they will never stand for it; they are not willing to look at the cost when it means something for us, but they are willing to look at the cost when it means something against us. That is the attitude of the city authority.

"Mr. Warren: The valuation has to be made on the best fair basis it can, has it not, Mr. Newman, by agreement between the parties?"

"Mr. Newman: Yes, but there are parties in line today who will determine that amount, there are men who are following that as a business who will do it.

"Commissioner Sweet: My idea was this, that in fixing the valuation of these companies the cost of replacement at present high prices ought to be a factor; that possibly enough would be derived to more than take care of the bonds and what you might call the senior securities and something might be left for the common stock.

"Mr. Newman: May I explain this to you, on this problem of value? No system has been devised for getting at that value and there is never going to be any system, either. There are no engineers in the country competent enough, and no group of engineers in this country competent enough, to know the absolute cost of that system or its past history, which is not available. It has to be a compromise situation, and every situation I have seen, it is just a backward and forward trade until you get a happy compromise or an unhappy compromise for the street railroads usually.

"Commissioner Sweet: Well, it has to be on a satisfactory basis to the city anyway. In other words, they have to feel that it is substantially correct and fair.

"Mr. Newman: Yes.

"Commissioner Sweet: Or else they will not agree to it.

"Mr. Newman: Yes.

"The Chairman: Perhaps we can get your idea of the reorganization of the company and the actual effect which it will have upon the stockholders if I can present an illustration to you. I know figures are a little misleading, but I am quite sure you will grasp this.

"Let us assume that you own a property which has a capitalization of \$10,000,000; \$3,000,000 is in bonds, \$4,000,000 in preferred stock and \$3,000,000 common stock. This

common stock is water. A physical valuation is made of the property and it is determined by competent tribunals that that property is worth \$6,000,000 and that value is established by the courts. Now your plan is to perfect a reorganization and to rewrite the securities down to the value of the property. Tell me in that scheme of reorganization how the common stockholder is going to be given any consideration.

"Mr. Newman: In the first place, these bonds may be 2 per cent bonds due in 50 years. Now what is the value of a 2 per cent bond due in 50 years. Certainly not par, so those \$3,000,000 may be cut to 50 cents on the dollar. The preferred stock may have had a 5-cent franchise and been earning nothing on it, but with the new rate from the city it may be able to earn something. But the common stockholders say, 'No, we will not join in this unless you will share with us.' And they usually do share, the common stockholders, where fair bankers have got the situation in hand. Now there is another place—

"The Chairman: Well, then, the only way by which the common stockholders can share in that reorganization is through their voting power?

"Mr. Newman: No, there is another way. That is one way.

"The Chairman: What is it?

"Mr. Newman: I had hoped to avoid this discussion. The rate of return on that property—now let us say we would get 10 per cent return on the property, which to my mind is not excessive, knowing the business and the miseries of it as I do. I would not want to live through it another 24 years for 10 per cent. The bonds may be 5 per cent bonds, the preferred stock may be a 5 per cent preferred stock, and many of them are.

"Commissioner Meeker: This is under the reorganization?

"Mr. Newman: No, the old securities. Now it only absorbs part of that 10 per cent return on your investment. You pay that 5 and 5 and you might capitalize the common stock for one dollar and issue certificates of participation in that dollar and yet have a substantial amount to divide without having the capitalization. You might have no par value a share. Do you see that?

"The Chairman: I do not know what I see. I am asking you questions.

"Mr. Newman: Yes. Well, I have answered it, or I think I have, and I will repeat it. Take your proposition of \$3,000,000 bonds, I will make it concrete for you, and \$4,000,000 preferred and \$3,000,000 common. I will make this calculation in a hurry for you. Now you have \$6,000,000 value and say that ought to get 10 per cent for the risk and worry of the business. That gives us \$600,000 a year. We have to cut our capitalization to six million. These \$3,000,000 bonds are 4's and are entitled to \$2,000,000 of the new 6's. The preferred stock of four million will be entitled to three million of new 7 per cent preferred stock. That is 120,000 and 210,000, is 330,000 from 600,000, and we have an equity of 270,000 to pay the one million common stock which I can issue within my capitalization, or 27 per cent.

"The Chairman: Of course, that is a hopeful future. I think that is an exceedingly valuable contribution to the record. I may want to go into the public utility business.

"Mr. Warren: You first have to catch your 10 per cent.

"Mr. Newman: If we get the 10 per cent you had better go into it, at the present value of the security."

My own testimony before the Commission came later than Mr. Newman's, and without having had my attention called to his reorganization theories, I touched upon the point the discussion of which he said he had hoped to avoid. Speaking from the public point of view, at page 1244 of the Proceedings, I say:

"Public utility commissions ought, I think, to adopt the rule, in all rate cases, that where the fair present value of the property is no greater than the par value of the bonds and other obligations outstanding upon which fixed charges are paid, the rate of return allowed upon the investment shall be no greater than the rate of interest paid on such bonds, and other obligations, to the end that stockholders having no capital investment represented in the present value of the property shall have no share in the return on capital.

"I think that is important for this reason. We have, as I said today, a good many cases of gross overcapitalization. The men who are now in control come forward and try to save their positions in two ways: First, by finding all kinds of imaginary value, making the property appear to be worth a great deal more than it is; that is, that is my opinion, from the public point of view—trying to make it appear to be worth a great deal more than it is. That, of course, will tend to cover up, if they can get away with it—to cover up the overcapitalization. But if that does not go, they say: 'Give us an 8 per cent return'; and an 8 per cent return upon \$50,000,000 that is represented by \$50,000,000 of bonds, upon which interest is paid at 5, or at the outside 6 per cent, leaves a margin of $\frac{3}{8}$ or $\frac{1}{4}$, as the case may be, of the return upon the investment to be capitalized, or to be taken by the stockholders as an equity which, from the capital standpoint, does not exist. I do not think that where the par value of bonds, obligations which must ultimately be met, is equal to the full value

of the property, the stockholders or the managers should be allowed anything for themselves in the form of a return upon capital. They have no capital interest in the industry, and their return or reward ought to be just like that of any other managers—the salaries they get; or, if you adopt the system of some scheme of bonus for good management, that bonus, or that reward, should not attach to capital as such, but to management as such. I think that should be recognized clearly, because the trouble, when we try to come to an agreement on these public utility matters, is that the companies are all the time trying to put something over on the public, and the public in some cases, is trying to put something over on the utility; but to take the plan and say: 'All right, we agree to that,' and then to fix it so that the result is not the result that was intended, does not promote a final solution, and does not promote good relations."

In his testimony before the Commission, Mr. Morris L. Cooke touches upon the relation of capitalization to value at the beginning of the World War. At page 1689 of the Proceedings, he says:

"As a result of my contacts with the utility situation in nearly all the large cities of the country, I estimate that on July 1, 1914, the face value of the outstanding securities of these municipal undertakings represented almost twice what might be considered the fair value as estimated by fair men, unschooled in the equivocations and mirages so assiduously conceived by versatile lawyers and valuation experts during the last twenty years. While my inquiries in the street railroad field had not been as conclusive as in the electrical field, everything points to alleged value bearing to real value a ratio of at least two to one."

Further on, Mr. Cooke discusses the pros and cons of the receivership as a remedy for overcapitalization, and points out that efficient management, aided by war prices, may be able to absorb some of the "water" in electric railway capitalization without resort to bankruptcy proceedings. At pages 1694 and 1695 of the Proceedings, he says:

"The question of what shall be done about the excessive valuation or watered stock remains to be answered. Where there is an excessive difference to be absorbed, as is the case in many cities, I suppose there is nothing to do but 'Let Nature take her course.' In any such case the readjustments incident to a receivership and a reduction in the property investment account will come as the inevitable retribution for past mistakes. It will be found that our old time friend, the 'widow and orphan,' will not suffer as much in this as we are sometimes led to believe. Some years ago I examined the investment lists of four of the largest savings funds in Philadelphia and found that among investments totaling hundreds of millions, there was not one dollar in municipal utility securities. In other words, careful investors have been on notice for some time.

"But where the excessive valuation is not too great and where efficient management has been installed, adjustments reasonably fair to all concerned and not involving too radical readjustments should be possible. Here, again, we can turn to Philadelphia for an illustration. Everyone knows that there is in the P. R. T. a large underlying layer of the purest water, running into the tens of millions. I think it is a fair statement that as the result of the past ten years of careful management a part of this overcapitalization may be said to have been absorbed. If Mr. Mitten continues his activities and along the most promising lines, I think it will be altogether possible for him to further reduce the discrepancy between real and alleged value. If present prices are maintained, of course, his task will be the easier. I can then conceive that at some future date there can be reached some conclusion as to what the shortage is and that this can be in part validated in an open and above board manner by a public which is not without some measure of responsibility for its existence, and in part covered by a cancellation of outstanding securities. After all, neither the city nor the security holders should advocate the revolutionary route of a receivership if the necessary adjustments can be made by a more orderly process. Any such settlement is contingent upon full evidence of good faith on the part of the company and the establishment of a progressive and efficient management of the property. In this Philadelphia situation, unless the adjustment is reached by some such method as suggested, the community will ultimately insist upon a valuation made very largely for the purpose of exposing past wrongs, and without any desire to give the management even a sporting chance."

This matter of the treatment of outstanding securities presents one of the knottiest problems in the whole discussion of the future of the electric railways. It is sometimes urged that a failure on the part of the community to protect existing security holders, the so-called "innocent investors," regardless of the

intrinsic value which their stocks and bonds represent, would give street railway credit a worse black eye than it now has, and that, therefore, any scheme for the rehabilitation of credit as a means of securing new capital must first take care of the capital already in the business. Of course, any policies that tend to prove bad faith on the part of the public in dealing with street railway investors cannot help making future credit based upon the community's faith more precarious. But the argument that the good faith of the community is involved in the preservation intact of the existing financial structure of the electric railways is specious, to say the least. Undoubtedly, the element of good faith may be involved to a limited extent in some communities, but the usual test of good faith in business relations is the scrupulous fulfillment of contracts, except to the extent that such contracts are shown to be contrary to public policy. In my judgment the restoration of street railway credit depends more upon the reorganization and rebuilding of the financial structure of the industry on a sound basis than upon the restoration to the old security holders of the values which they have already lost under the terms of their contracts. In other words, while I recognize that receiverships are a painful remedy, I see no sufficient reason for permitting the entire policy of the public with respect to the electric railways to be dictated by the fear of them. Heroic treatment is often necessary to save the life of a patient. It is very doubtful whether the companies should be "coddled" along with distilled water and homeopathic pills when everybody knows that a dose of castor oil or the surgeon's knife is what is needed. The public can well afford to do almost anything to preserve the electric railway industry as such; it has much less interest in saving the present managements. If credit is to be re-established and maintained, a new foundation for it will have to be laid in very many cases.

CHAPTER XXXVII

NO ONE REMEDY SUFFICIENT

In the discussion in the first chapters of this report, I pointed out the general consensus of opinion that the solution of the electric railway problem depends upon a restoration of the credit of the industry. After analyzing the causes that led to the collapse of street railway credit, I have analyzed the most important of the affirmative suggestions put forward as to means for restoring it. These suggestions in the order of their discussion are: (1) an increase in unit fares, (2) the adoption of the zone system or distance tariff, (3) relief from taxation and other public burdens, (4) efficiency in management and economies in operation, (5) control or abolishment of jitney competition, (6) cooperative relations between management and men, (7) public subsidies, (8) abandonment of unprofitable lines and (9) financial reorganization.

No one of these proposals necessarily implies a complete change in the public relations of the industry, although some of them point in that direction. The analysis of the evidence before the Commission points unerringly to the conclusion that no one of these proposed remedies and perhaps no combination of them will be sufficient to put the electric railway industry upon a sound basis from the point of view of private ownership and management, while at the same time preserving and developing its characteristics as an essential public utility.

I have not discussed in detail certain minor suggestions such as the development of the freight business of the electric railways as a supplementary source of revenue and for the better utilization of the existing plant. I do not wish to gloss over possibilities such as this, but the evidence before the Commission does not warrant a consideration of freight development as a major remedy for the strictly urban lines. The fact is, as I have already pointed out, that the consensus of opinion seems to point to an entirely new deal in the status of the industry with respect to public restrictions and public control as essential to any thorough-going rehabilitation of street railway credit.

In Chapter XXIV I presented the pros and cons of public ownership as set forth in the testimony of numerous witnesses, for the purpose of showing whether or not so radical a change in the status of the industry would be acceptable as an alternative to its destruction, if the issue should come to that. I pointed out that even those who oppose public ownership in theory admit in most cases that it would solve the problem of credit and that as a means of avoiding the complete collapse of electric railway service, it would be better than no remedy at all. We have now reached the stage in the analysis of the problem of credit where it is necessary to point out the essential steps to be taken before a "new deal" can be put through, and to consider, from the standpoint of credit, the

fundamental characteristics of the new relations to be established between the public and the electric railways. The amount of the investment and the fair rate of return are the two complementary factors that must be determined at the threshold of the new dispensation. Then we shall have to consider continuous public regulation and semi-automatic regulation through service-at-cost contracts as the alternative methods of administering the public relations of the electric railways with a view to the restoration and maintenance of their credit under private ownership. After that we shall come to a further discussion of public operation or of public ownership and operation in their relation to credit. These several matters will be taken up in order in the succeeding chapters.

CHAPTER XXXVIII

THE VALUATION

The determination of the amount of the investment upon which an electric railway company is entitled to earn a fair return while it continues to serve the public is fundamental to the establishment of the new deal about which so much was said by the witnesses before the Commission. Nevertheless, it appears that the American Electric Railway Association did not include definite and complete testimony on the principles of valuation as a part of its case. That the policy adopted by it was based upon the assumption that the Commission would not pass in a definite way upon the question of valuation, is shown by a brief discussion which took place near the close of the very last of the public hearings, just as Mr. Bently W. Warren, counsel for the Association, was about to leave. At pages 2122 and 2123 of the Proceedings, the following appears:

"Mr. Warren: As I understood, the question of valuation is not going to be passed upon in any definite way by the Commission, as we did not introduce evidence on it. * * *"

"Commissioner Wehle: Excuse me, just a moment, but before you leave, lest there be any misunderstanding on the question of expressions by the Commission in its report on the question of valuation, I think before Mr. Warren leaves I should like to hear what the Chairman has to say about it; because, although we did not go into the discussion of valuation here, it was my understanding that reference might be made to any previous investigation.

"Mr. Warren: We should welcome that.

"Commissioner Wehle: And that recommendations might be made by the Commission.

"The Chairman: The Chair believes that this Commission is not in a position, from this record, to undertake to make a definite pronouncement upon the kind of a valuation which should be made, or the principles which should apply. Just in what form our recommendation should be made upon that subject—and, of course, one must be made—is a matter for us to dispose of in our executive sessions.

"Mr. Warren: Of course, the more fully you set out the different forms of valuation, I think the more valuable the report would be."

Notwithstanding Mr. Warren's remark referring to the question of valuation that "we did not introduce evidence on it," an examination of the Proceedings shows that considerable testimony with respect to the general principles of valuation was given by the witnesses, including some of the principal witnesses who testified on behalf of the Association. Moreover, among the pamphlets filed by the Association with the Commission was included a "Report of Committee on Valuation," approved by the Executive Committee of the American Electric Railway Association, and presented at the Convention of the Association held in Atlantic City in October, 1919. Mr. Philip J. Kealy, President of the Kansas City Railways Company, was the chairman of this committee on valuation. The other members of the committee were George Weston (since deceased), W. H. Sawyer, Martin Schreiber, B. E. Tilton, W. J. Harvie, J. N. Shannahan and Charles E. Bailey. The report itself does not disclose the official connections and qualifications of the several gentlemen who participated in the preparation of the report, but under date of February 26, 1920, the report was introduced in evidence

in the Public Service Railway valuation case pending before the New Jersey Board of Public Utility Commissioners by Mr. Martin Schreiber, chief engineer of the Public Service Railway Company, who, as will be noted, was one of the members of the committee. Mr. Schreiber testified that the report was prepared by Mr. Kealy and that Mr. Kealy was the engineer in charge of the valuation of the Metropolitan Street Railway Company of Kansas City in 1912 under Bion J. Arnold of Chicago. He described the qualifications of the other members of the committee, stating that the late Mr. Weston had been for a period of six and one half years up to January 1, 1919, the representative of the City of Chicago on the Board of Supervising Engineers—Chicago Traction; that Mr. W. J. Harvie, Vice-President and General Manager of the Auburn and Syracuse Electric Railway Company and a past president of the American Electric Railway Engineering Association, had been at one time chief engineer of the Syracuse Rapid Transit Company, and later railway manager for the J. G. White Company; that B. E. Tilton, Vice-President and General Manager of the New York State Railways Company had been at various times construction engineer for the Pennsylvania Railroad, engineer of maintenance of way of the Cleveland Electric Railway Company and engineer of maintenance of way of the Rochester Railway and Light Company; that Mr. J. N. Shannahan was President of the Peck, Shannahan, Cherry Company, which is engaged in financing, constructing and operating utilities, and that in the course of his career he had been at one time railway manager of the J. G. White Company; that W. H. Sawyer was Vice-President and executive in charge of railway and light companies of the E. W. Clark Management Corporation of Philadelphia and, among other things, had served six years with the General Electric Company and four years as manager of the New York office of Ford, Bacon & Davis; that Mr. Charles E. Bailey was engineer in charge of the reports of the J. G. White Company; and that the witness, Mr. Martin Schreiber, was a past president of the American Electric Railway Association and had been for sixteen years connected with the Public Service Railway Company of New Jersey, serving successively as engineer in charge of buildings and track extensions, engineer of the mechanical department, engineer of maintenance of way and chief engineer. I refer to Mr. Schreiber's testimony in the Public Service Railway valuation case for the purpose of showing that the Report of the Committee on Valuation filed with this Commission is a well-considered and authoritative statement of the position of the Electric Railway Association, intended to be used in a definite and practical way in support of the contentions of individual electric railway companies in valuation cases.

Besides this report, which was filed with the Commission in pamphlet form, though not formally introduced in evidence, the record discloses that the Commission had the benefit of extended testimony by Professor Mortimer E. Cooley, Dean of the School of Engineering and Architecture of the University of Michigan, whose experience in valuation work extends over a period of more than twenty years and includes several street railway properties of great magnitude, notably the Chicago, Milwaukee, Cleveland, Detroit, Michigan United Railways and New Jersey properties; also that General Guy E. Tripp, chairman of the Committee of One Hundred, appointed to prepare and present the case of the

American Electric Railway Association, Mr. Henry L. Doherty, Mr. James D. Mortimer, Mr. Henry G. Bradlee, Mr. Francis H. Sisson and Mr. J. K. Newman, among the leading witnesses on behalf of the Association, went into the question of valuation to a greater or less extent. The subject also received a certain amount of attention from other witnesses.

That the valuation is the rock of stumbling in all efforts for a readjustment of the public relations of the electric railways is proven by experience, by the general consensus of opinion, and by the necessities inherent in the situation as soon as we get away from the theory that the capital value to be recognized in the adjustment of these relations is to be determined on the basis of the actual amount of money furnished by private investors for use in the public service. A plan for the solution of the electric railway problem that does not include a plan for the determination of the amount of the company's investment to be recognized for all public purposes essential to such solution, lacks the spark of life that distinguishes a man from a manikin. A carefully worked-out plan of public relations, accepted in every detail by the public and by the companies, and complete with the exception that neither the valuation nor the method of arriving at it is determined, would leave the public and the companies substantially as far apart as ever. In other words, the valuation is "IT."

In view of the fact that the present status of the electric railway industry and its need for relief at the hands of the public was presented affirmatively to the Commission by the American Electric Railway Association, it is fitting in our discussion of the valuation question to begin with a statement of the Association's valuation program as it has been definitely formulated and officially promulgated. The Committee on Valuation, recognizing the importance and difficulty of its problem, nevertheless exhibited considerable optimism with respect to the desire of everybody concerned to reach a fair and practical solution of it. At pages 3 and 4 of its printed report, it says:

"In view of the great importance of the item of 'fair value' in rate making negotiations, the Association has requested the Valuation Committee to prepare a report, at the earliest possible date, setting forth its recommendations as to the proper procedure to follow in determining 'fair value' in the hope that through the work of this Committee, representing practically all of the Street Railway Companies in the United States, there could be a method of valuation evolved based upon safe economic principles acceptable to the investors and to the various Public Utility Commissions and other rate making bodies representing the public.

"In attacking this problem your Committee realizes the many conflicting opinions that have prevailed and the many mistakes that have been incorporated in public valuations of the past, but it is the unanimous opinion of the Committee that it is undoubtedly the earnest desire of all interested parties, the Courts, Public Utility Commissions, Municipalities and other governing bodies, as well as the companies, to evolve a method of arriving at the fair amount of capital upon which to base a return and that this can be accomplished through the application to the problem of common sense business methods between common sense business men."

The committee lays down as its first premise that the investor is entitled to a fair return upon his investment until he gets it back. Starting from this assumption, the committee works out a general statement of principles governing the use of the two leading methods of valuation, referred to as the "original investment" method and the "cost to reproduce new" method, respectively. At page 4 of its report, the committee says:

"There can be no question but that the investor in any public utility serving the public, is entitled to a fair return upon his investment until it has been returned to him.

"Accepting this principle as an 'axiom,' every dollar spent in creating the property, including the individual effort (the equivalent of money) of the promoters and organizers and builders of the property, including superseded property unamortized out of the earnings of the road, should be included in 'fair value.' And in addition the investor in the company is entitled to a reasonable return upon his actual original investment, plus the appreciation of the property including its value as a 'going concern' as compensation for the 'initial risk' or 'hazard' and his skill in successfully operating the property. In other words an increase in capital value is the same as an increase of new capital.

"With these general premises in mind the Committee makes the following statement of general principles involved:

"(1) Where 'original investment' is used upon which to base 'fair value' and full complete 'original cost' data is available covering all expenditures including promotion, organization, cost of financing, contingencies, etc., there should be added to these original cost figures any appreciation including a fair value for 'going concern' and there should be no deduction for unamortized superseded property or for accrued physical depreciation in a well maintained property.

"(2) That where full and complete original cost data is not available the 'cost to reproduce new' method should be used. That an inventory of the existing property be made at prices as of the date of the inventory, which date should coincide with the time the valuation is being made and expressed herein as 'prices of today.' To this bare bones inventory and unit price summation should be added the proper 'overhead' percentages, 'going value' and other development costs to complete a full 'fair value' for 'rate making' purposes and there should be no deduction for accrued physical depreciation in a well maintained property."

The committee enumerates the "items to be considered in estimating fair value for rate making," but later on recommends its conclusions to the member companies of the Association, to the state utility commissions, to the Interstate Commerce Commission, and to "other national, state and municipal governing, regulating and supervising bodies" in connection with the determination of fair value not only for rate-making purposes but also "for sale to a municipality, state or government." In our discussion of the committee's definitions and conclusions, therefore, we must regard them as intended to apply equally to rate making and public acquisition, the two great purposes for which a valuation is required in connection with the adjustment of the companies' public relations.¹ The "items" listed by the committee are the following:

"(a) Promotion expense

"(b) Organization expense

"(c) Brokerage

"(d) Construction costs (based upon actual property inventory at prices as of the day and date of inventory).

"(e) Overhead direct charges not included in (d)—Engineering and superintendence; storeroom expenses, cost of handling materials, clerks, general office help, contingencies; contractors' profit; carrying charges during construction; taxes during construction; insurance during construction.

"(f) Going Concern

(1) Cost of consolidation

(2) Superseded property

(3) Created value

(4) Development costs.

"(g) Working Capital."

The committee then takes up the definition of the terms used in this list of items. It defines "promotion expense" as follows:

"The initial work necessary to start a public utility enterprise requires the time, effort and work of capable men to plan the proposed service, to show its public necessity, to estimate the possible business and prepare construction costs, gross receipts and operation expense statements, prepare the preliminary work necessary to procure franchises, etc. This work is a service of value to the public and represents a money value properly chargeable to capital account."

“Organization expense” is next defined:

“An efficient organization must be carried during the formation and construction period consisting of legal, financial and business experience and ability to arrange for and carry on the details of company organization and the creation and construction of the property. This expenditure is a proper charge to capital account.”

“Brokerage” is described next:

“The money necessary to create the properties must be arranged for through sales of stock and bonds, and bankers or brokers are generally engaged to place the securities and collect the money as required. This means,

The payment of commissions
Preparation of mortgage
Service of registrar, corporate and individual
Service of trustees
Cost of certification
Revenue stamps
Cost of Recording Mortgage
Public Service Commission Costs for Approval
Advertising,

and other expenses, and this brokerage cost should be included in any investment estimate for rate making.”

Up to this point the several items described relate to preliminary expenses. The next item is “construction costs,” which are defined as follows:

“A detailed inventory and classification of the existing physical property forms the basis of all ‘Cost to Reproduce New Valuations’ to which should be applied unit prices and costs or values as of the date of inventory. The value based upon present day prices is then in accord with current rates of wages, current cost of material and the current value of a dollar and is economically sound. To the ‘bare bones’ inventory at unit prices must be added the direct and indirect overhead charges not included in the unit prices for rails, other construction materials, labor costs, etc., all as enumerated.”

The committee then states that “the items of direct overhead charges enumerated should require no further explanation”; but, owing perhaps to its recognition of the perversity of the public mind when overhead charges are the subject of thought, the committee goes on to explain them nevertheless, as follows:

“The purchasing of the materials, their transportation, sub-delivery, accounting, inspection, etc., require supervision and direction and the effort of large forces of storeroom and general office help, inspectors and checkers, the cost of which is not included in unit prices.

“The general and detail design of all parts of the property require the work of engineers and architects and their assistants to make drawings, bills of material, working specifications, and prepare purchase contracts, the general direction of the work in the field, the making of estimates of cost, progress estimates, partial payment estimates for all contracts and the general supervision and progress of all parts of the construction, the cost of which could not be included in unit prices.

“During the progress of the work, cash must be provided to pay the current labor, material costs and partial payment contract estimates and interest must be paid upon this capital as it is invested during the period of construction and before the property can earn a return. The same is true of taxes, and insurance, including fire and accident. Interest, taxes and insurance during the construction period are a part of construction costs and should be a capital charge.

“In the building and erection of a large property many contracts are entered into for specific kinds of materials in quantities, special machinery, track work, buildings, etc., and the item of contractors’ profit is one of the construction costs that must be included in ‘fair value’ for rate making.

“The item of contingencies is an important one in any cost estimate whether it be to furnish advance information to financiers and promoters, or in connection with any large public improvement, or our own problem ‘the establishment of a reasonable and just investment value’ and covers the uncertainties, omissions, additions, extras, attendant upon any construction job, large or small, and among many others, includes the following unforeseen but ever present items of delay: removal of obstructions, the appearance of conglomerate,

hard pan, or solid rock in excavations where earth had been estimated, slides in open cuts, the removal and restorations of water pipes, gas pipes, electric wires and other underground improvements, underpinning of buildings, etc. * * * * This item of contingencies is a real item of cost in every job and ranges from 10 to 50 per cent of the total cost and in some hazardous undertakings such as under-water tunnel or foundation work the actual cost is sometimes many times greater than the 'bare bones' bill of material contract-specification estimate of costs."

Then the Committee goes on to describe "going concern," a term which it translates, in parentheses, as "Health of the Property." In this there is cause for public cheer, as under the evidence presented before the Commission the electric railways at the present time have very little "health" to be valued and capitalized. Still, this may be a weasel word, leaving the door open to treat "going concern" either as good health or as ill health. At any rate, the Committee says that "going concern"—

"Represents the value that exists in a completed, matured, successfully operated property and embraces the items of 'readiness to serve,' a 'built up successful business,' etc., as compared with a new property in the course of construction, or the immature condition usually prevalent at the beginning of its operation and other development costs including an amount equal to the deficiency of net earnings below a fair return upon the fair investment due solely to the time and expenditure reasonably necessary and proper to the development of the business and property to its present stage and not comprised in the valuation of the physical property."

The committee then describes and defines three of the four specified elements of "going concern" as follows:

"Item (f) 1. Cost of Consolidation

"In the past, competing companies were granted franchises in the same community and duplication of operating organizations and other expenses resulted, and the service to the public was less efficient and more expensive. Under one management the public has benefited by a lower average fare, the more direct routing of cars and an extension of service for a single fare. Much time, effort and expense is usually involved in bringing about a consolidation. This development expense is of value to the public, and its cost is a proper charge to Capital Account.

"Item (f) 2. Superseded Property

"A public utility property is entitled to repayment for all of its property consumed in the service of the public.

"The ordinary replacement or renewal of property actually worn out in the service is charged to operating expense and is therefore amortized out of earnings. It is only when large replacements of property are made necessary by extraordinary changes of motive power, such as from horse car to cable, or electricity, or both, or wreckage due to violent storms, earthquakes or other unusually destructive calamities, or when due to improvements in the Art, the general type of car, or other property in service is replaced in large quantities, that it becomes impracticable to immediately amortize out of earnings and new capital must be used, and this new capital should be included in 'fair value' upon which to base a return until such time as it has been amortized.

"Item (f) 3. Created Value

"This item covers an important element of value that may properly be a part of 'Going Concern Value' and represents the value due to the utility having been brought into existence and becoming alive and a vital part of the community. Having pioneered the growth of the city or Commonwealth and enhanced the value of both private and public property, the utility itself should be justly credited with part at least of the value it so created."

The committee gives no separate definition of "development costs," the fourth sub-item under "going concern."

The last "item" in the list is "Working Capital," which the committee defines as follows:

"Every business should have a 'Cash Reserve' or 'Working Capital' to 'cushion' the rise and fall between income and expenditures, to carry materials and supplies account, and especially to fortify it against any reasonable financial emergency that may arise. An adequate allowance for this item should be included in capitalization."

"Bond Discount" is referred to by the committee as an item not to be capitalized. The report says:

"This item has been set up as one of the problems to be considered in 'rate making.' A new public utility seldom sells its securities at par, but bond interest is paid upon par value and must be included in the rate of return. The question of 'Bond Discount' has been considered in many public service rate cases and has been allowed as capital in some instances, but in the majority [of] cases has been considered to represent prepaid interest and is a matter to be included in rate of return rather than to be capitalized."

Upon the subject of depreciation, so much mooted in all valuation proceedings, the committee takes an unequivocal stand against making any deduction for accrued depreciation in the case of a well maintained property, whether the valuation is being made for rate purposes or for sale to "a municipality, state or government." The subject is discussed at pages 9 and 10 of the committee's report, as follows:

"The prevailing practice in making valuations for rate making or upon which to apply rate of return, adopted by Public Service Commissions and other public utility supervising bodies in the past has been 'cost to reproduce new, less depreciation.'

"There has been little argument between the companies and those representing the public about correctness of inventories. More differences have arisen with respect to proper unit prices to apply and differences of opinion respecting proper overhead and 'going value' percentages, also with the method of determining the amount of depreciation to be deducted, if any.

"Depreciation has been classed by all students of the subject to be an operating charge and not a capital account item. The only provision that can be made to take care of depreciation is by making proper repairs and proper renewals when necessary, and these expenditures should be charged as an operating expense: that is, in the case of renewals the original cost of the thing replaced should be charged to renewals and any excess or betterment is a proper charge against capital. The integrity of the capital investment is thereby maintained against depreciation to the extent practicable or economically possible. An exact standard of percentage physically good to apply to any well maintained electric railway property is difficult to establish because this percentage will vary in different properties influenced by different types of property and equipment, the physical characteristics of soil and other local conditions and usage. A property consisting of a large percentage of elevated or subway construction will show a much higher percentage physically good of the total investment than a surface electric railway property.

"Every public utility property should be maintained at 100% *operating condition*, but it is both impractical and uneconomical to maintain any property approximately 100% *physically good*. This for the reason that the physical per cent good of any property will vary from approximately 100%, in the case of a new property, to 80% or less, in an older property, depending upon the age, the different stages of renewal cycles through which the property has passed, and the amount of additions and betterments which have been added.

"There is a certain amount of total accrued depreciation that never can be taken care of in any operating, growing property. In other words, as stated above, the only practicable, economical expenditure that can be made to offset depreciation is to make repairs and renewals when physically necessary. There can be no fairness or logic in attempting to penalize a company because it has not done the impossible. The full original investment remains in the property and the investor is entitled to a return upon every dollar until the investment is repaid to him. Where a property has not been kept in good physical condition and there is unmistakable evidence of 'deferred maintenance' found in any property the subject should receive special consideration and if the property being valued has been a prosperous one in the past and the fact is in evidence that the money that should have been expended for renewals and repairs has been diverted to other uses of benefit to the company, the company should be required to make good this deferred maintenance, the cost to be charged to its individual account and not to operating expense.

"If, on the other hand, it can be shown that any company carrying 'deferred' maintenance has been well managed but that the income has not been sufficient to pay the increased costs of operation, franchise obligations and interest and, in addition, to properly maintain the property, then provision should be made in any rate adjustment to permit the company to earn the amount necessary to put the property in good operating condition.

"Your committee wishes to emphasize its conclusions with respect to the subject of accrued depreciation in the strongest manner possible, as follows:

"Where a property has been maintained in good operating condition and an appraisal is being made to determine investment value for 'rate making' or for sale to municipality, state or government, no deduction should be made for accrued depreciation."

Particular attention should be called to the outstanding features of the committee's recommendations so far as they relate to controversial subjects. It will be observed that although the committee recognizes that the "original investment" method of determining fair value is a legitimate one where a complete and reliable record of total actual expenditures is available, its discussion relates almost exclusively to the "cost to reproduce new" method. The committee says, at page 4 of its report, that "it has become the almost universal practice to inventory the existing property and apply unit prices to the different items of construction." The first outstanding feature of the committee's recommendations, therefore, is that the reproduction-cost method is the one to be used in almost all cases. Indeed, in its general statement of principles to be applied where the "original investment" method is used, it says that to the complete original cost figures should be added "any appreciation including a fair value for 'going concern,'" and that no deduction should be made for "unamortized superseded property" or for "accrued physical depreciation in a well maintained property." The inclusion of "appreciation" in an original cost appraisal tends to make this method very nearly equivalent in result to the reproduction-cost-new method.

The second outstanding feature of the recommendations is that in the application of the reproduction-cost-new method unit prices should be taken as of the date of the appraisal, not as average prices extending over a period of years nor as prices of some past time which might be regarded as more nearly normal than the present. Right now, this means prices substantially at the war peak.

The third outstanding feature of the recommendations is the flat-footed and emphatic declaration that accrued depreciation in a well maintained property should in no case be deducted from cost new in arriving at a basis for rate making or for sale to a public body.

The fourth outstanding feature of the recommendations is that "going concern" value is interpreted to include not only deficiency of net earnings and superseded property, but also "cost of consolidation" and "created value." It is noteworthy that while "development costs" are listed as a sub-item under "going concern," they are not separately defined. It must be presumed, however, that this sub-item represents something different from, and in addition to, the three elements of "going concern" which are separately defined.

In its discussion of overhead charges and going concern, the committee does not attempt to fix percentages or amounts, on the theory that "they will vary in different properties, and therefore must be separately determined for each particular property." Perhaps the most striking feature of the entire program of valuation recommended by the committee is the claim for "created value." The theory is that transportation facilities are beneficial to the community and enhance the value of real estate, and that, therefore, the owners of the transportation lines should get not only the full reproduction-cost-new value of their own property, but also a share in the increased value of other holdings.

In view of Mr. Warren's statement that the Electric Railway Association "did not introduce evidence" on the subject of valuation, it might be considered that the testimony on this subject given by the various witnesses for the Association is to be regarded as incidental, personal and unauthoritative. For example,

General Tripp, in advocating a theory of valuation that appears to be quite different from that outlined by the Committee on Valuation, took particular pains to say that he was speaking for himself and that his testimony should not be regarded as binding the Committee of One Hundred, of which he was chairman. Nevertheless, it is necessary to analyze the testimony of the individual witnesses upon this all-important subject, and so far as Professor Cooley's testimony is concerned, it cannot be regarded as other than a definite part of the Association's case.

Mr. Warren, after he had qualified Professor Cooley as a valuation expert, asked him this question:

"What would you say was the keynote of the troubles so far as you have found troubles—and I assume you have—in this valuation question?"

Professor Cooley's reply, found at pages 249 and 250 of the Proceedings, indicates that in his opinion *ignorance* is the keynote of valuation troubles. He says:

"There is not very much trouble now in valuing a property. Valuation has been very much simplified, very much organized, and it is not a difficult matter to procure results and they are reasonably accurate; but the great difficulty—and I myself think it is the keynote of all our trouble today—is ignorance, sheer ignorance and lack of understanding by the public, very largely, but not confined to the public—a lack of understanding by the railroads themselves of the fundamental principles that are involved in all questions of valuing property, and especially all questions that are involved in fixing rates. If we could have a campaign of education which will make perfectly clear these things that are now misunderstood, I think the trouble would disappear almost wholly.

"I am convinced of that, and I have been trying to do my part in dispelling that ignorance, but it is very difficult. The attitude of the public mind is such that you cannot approach them; you cannot make them listen to you; they won't believe you, and I do not know that they are to be altogether blamed for it, because they have been sorely tempted in the past. I think the public utility companies all admit today that their own conduct in the past has, to some extent, merited the difficulties that they now find themselves in. I make no defense, and the utilities themselves make no defense, of the mistakes that they have made in the past, but the utility companies, as a rule, now see what mistakes they have made, and are trying their best to remedy them. But the public is not yet willing to meet them anywhere near half way; and so I say it is a case of ignorance—a greater amount of ignorance on the part of the public than it is on the side of the utility."

Mr. Warren's next question is as to whether "as a general proposition the factors in any valuation are the same as in other cases"; to which Professor Cooley, at page 250 of the Proceedings, replies as follows:

"I think myself that the factors that enter into a valuation of any kind of a utility property are just the same in the case of a steam or electric road or a gas or water-works property, or a telephone or telegraph property. They are all practically the same, the same fundamental principles, the same fundamental elements; and when you have described the process of valuation of one property, and have all the factors in connection with that property, you have them all in connection with the other property. There are about eighteen or twenty of them, depending upon how much subdivision you give all factors that you cannot fail to take into consideration in every rate-making case."

As a setting to Professor Cooley's further testimony, the following exchanges at pages 250 and 251 of the Proceedings are perhaps important:

"Mr. Warren: I hesitate to ask you questions, because I know you know so much more about the subject, Professor Cooley, than I do.

"Mr. Cooley: It is rather difficult to talk on this subject, because it is so easy to talk; what I mean is that there is so much that can be said, and that one can talk a very long time, and I would like very much to confine myself to the particular things about which the information I can give would be wanted.

"Mr. Warren: Well, it has been suggested here that in case the Commission should

make recommendations along certain lines, as, for instance, possibly a service-at-cost recommendation, that might involve, perhaps necessitate, a basis for any such plan for any particular company, and the valuation question has arisen and has been discussed by some of the witnesses as to what sort of a valuation and upon what basis it should be made.

"Mr. Cooley: Then, perhaps, I might start by discussing what we will call factors determining a reasonable charge for public utility service.

"Mr. Warren: I think that would be very useful.

"Mr. Cooley: That will not involve my going into the details of valuation, unless it be desired.

"The Chairman: Let me make this suggestion: Perhaps, the Commission should give some consideration to the question as to whether we should enter into a very full development of the proper principles of valuation. It is a question whether our Commission shall make any finding, or even *should* make a finding, as to the proper elements which should be included in the physical valuation of a plant. We are dealing with fundamental principles and fundamental evils.

"Mr. Cooley: I will endeavor to take up what I understand to be your point, but what I did not want to do here was to go into the detail of physical valuation and take up the value of ties, rails and cars and different elements of the physical property.

"Mr. Warren: I might suggest, Mr. Chairman, that I suppose that is a matter which the Commission will consider in executive session, as to whether they will make any recommendation about the valuation or as to the elements entering into it or the basis upon which it should be made. It might help the Commission in its consideration of that question if they themselves, you and other members of the Commission, were to ask Professor Cooley any questions that seem to have particular pertinence to your decision on that question.

"The Chairman: There is so much to be said on that subject of valuation that, if we go into it, we can occupy a whole month in just taking that testimony alone."

Professor Cooley then undertook to describe the genesis of a railroad property in order to impress upon the Commission the items of preliminary and overhead costs which are not always apparent to the public. In the course of his discussion he referred to the item of contingencies which he said might vary all the way from 2 per cent up to 25 per cent or 30 per cent and would average "inside of 10 per cent, 5 per cent on the inside in connection with the details and 5 per cent on the outside, spread over." At this point it developed that the witness was not very familiar with the details of the Interstate Commerce Commission's findings in the railroad valuation cases, as he did not know that the item of contingencies had been ruled out in the Texas-Midland case. His testimony at page 255 of the Proceedings is as follows:

"Mr. Warren: When you give that figure, Professor Cooley, you base it on experience in actual cases, do you?"

"Mr. Cooley: Yes; I do, out of a very great deal of experience, and not only that, but I base it upon actual expenditures as they have been found by the vouchers. It is not a guess any longer. It was a guess in the first place, but it has gotten beyond the guessing stage.

"The Chairman: This question of contingencies has been argued before the Interstate Commerce Commission in the railway matter for a long time.

"Mr. Cooley: Yes, sir.

"The Chairman: Are you aware of the finding which was made upon that question in the Texas-Midland case?"

"Mr. Cooley: No; I am not, I am sorry to say.

"The Chairman: Perhaps, it may be of interest to you to know that the Interstate Commerce Commission did not fix any value for contingency in either the Texas-Midland or the A. B. & A. case."

Professor Cooley then explained that where the historical cost of the property can be found, it is unnecessary to fix a contingency item, and went on to say that in his opinion the complete historical cost, if it could be ascertained, would be greater than the cost of reproduction in normal times. His testimony on this point is found at pages 255 and 256 of the Proceedings, as follows:

"You would not have to fix any contingency item at all if you could get the historical cost of the property, if you knew what the property first cost, starting from the very begin-

ning. You can take that cost out of the books, and that, of course, is the thing to take, because it represents the money invested; but, unfortunately, you cannot do that with the old properties, at least. You may do it with the newer properties. So, we proceed in the best way we know how, to approximate that cost, and it is my belief that this so-called cost of reproduction method is the fairest approximation to what would have been the book costs if you could have had them, if you could get them.

"Commissioner Meeker: Suppose, in the meantime, the costs of labor and material have advanced from 50 to 100%?"

"Mr. Cooley: Yes; I am very glad you mention that right here. I was going to speak of it a little later, but right there that leads me to say that in making the statement that I just now made, I was assuming normal times, normal conditions, conditions that existed well before the war, and did not have in mind the extreme costs of labor and materials that we now have to bear.

"I think I should not fail to make this point, which is not usually conceded, I may also say, and which has to be in the nature of an expression of opinion. I have frequently said that, in my opinion, if we could have the so-called book costs, the historical costs, and have all of them, going back to the very day you gentlemen thought of this project and decided to go into it, it is my belief that that cost would be greater than the cost of reproduction in normal times, and the common opinion is, or the common belief is, that it would be very much less. I believe it would be more.

"Now, I do not believe I can prove that, but that is a belief that has crept in upon me, in view of my study of this problem during all of these years.

"Commissioner Meeker: Well, it is a matter of common observation that improvements in construction and all of the other items that you have mentioned have come about with the passage of time; so that it would seem to be a rather foregone conclusion that the cost of reproduction in normal times, barring cataclysmic world wars, would be less than the cost of actual construction.

"Mr. Cooley: I am very glad to hear that statement. It is the most consoling thing that I have heard in a long, long time. I thought I was alone."

After taking up the items of contractor's profit, taxes during construction, and organization, administration and legal expenses, Professor Cooley goes on to discuss, at page 257 of the Proceedings, the question of promotion costs and watered stock, with respect to which he says:

"The question of the promotion of an enterprise and of promoter's profits, is another red rag to the bull, and it is in connection with these promotion costs and promotion profits that the public thinks that a good deal of the water has gotten into the capital account. And I suppose there is water there in a great many cases, but there is very, very little water in recent cases, as far as my observation goes, and much less water in the older cases than the public believes, because, when you write your securities, the bonds are protected by a mortgage on the physical property. The face of the bonds is not equal to the cost of the physical property, but some percentage of it. It may be 50, 75 or 85%. The practice was to allow 85% in one case that I knew about.

"Now, that 85%, we will say, is written in the form of bonds protected by a mortgage. As soon as you have taken the precaution to get into the cost of the property all of these preliminary costs and all of these other costs that I have been discussing or will discuss, you are not going to have anywhere near the full cost of that property represented by the mortgage and by the bonds. Now, you must raise the rest of the capital in some other way—by stock, or whatever it may be. But say it is stock. If we have got 75% of the cost of the property in the form of bonds, protected by a mortgage, there must be at least 25% more in the form of stock, as we ordinarily think of our property, that is, just the physical property, as the public sees it; but, in addition to that, we have got to have another 25%, it may be, to cover all of these things that you gentlemen know about, expenses which you have incurred, and which do not appear in the valuation at all.

"So I say, to some extent, this so-called water in the capital account is fully and amply justified. Remember, I say to some extent. I do not say it is all justified, for I do not think it is in all cases."

The witness then goes on to discuss the "cost of money," "promoter's profits" and the item of "interest during construction," and gives his view as to the need for "working capital" when the construction of the physical property has been completed. On this last point, at page 261 of the Proceedings, he says:

"Now, when you have this property all done * * * * you have got the tracks laid and the power houses built and the cars bought, and you have at the very end bought

stores and supplies, and you have already arranged for your quarters, or you may have to rent quarters at the outset, or you may build your own building, and if you rent it, the rent, becomes an operating expense, and if you build it, it is a part of the property, and it becomes a capital charge. Then, the very last thing you do before you turn a wheel is to provide what we call a working capital. That is another red rag.

"Now, of course, it does not need any great amount of sense to know that when you start to do a thing, in which you buy materials and hire help, you have, at the end of the week or at the end of the month, to have a payroll. That is going to be the working capital for that payroll. That takes care of the payroll, and that working capital, gentlemen, is that fund of money that lies idle in the bank, subject to check all the time. It is the amount of money that the company has found necessary in order to do its business from day to day, and I take that from the books. I do not estimate that. I just take that. We go back over a period of years, and we find what has been the average amount required to do business, and we put it in. Yet everybody comes along and takes it out. I say 'everybody'; I mean the public. 'Why should we pay for that?' That is cash, but it is idle money, and if it does not bear interest in the banks, it earns an interest through the rate."

In order to place before the Commission the specific implications of Professor Cooley's testimony up to this point, Mr. Warren asked him this question: "Could you state any general figure or limits for a general figure of those overhead items?" Professor Cooley's answer appears at pages 261 and 262 of the Proceedings, where he says:

"Yes, I can do that, and you may be surprised when I get through with you. You will be very much surprised.

"What the gentleman means by this overhead is something over and above the actual money that you invested for materials and labor in the physical property. That is what he means.

"You buy materials, and you buy labor and you put those costs into the physical property, and it is what we call the base figure. Now, how much in addition to that base figure must you add for organization, legal expenses, engineering, interest on the cost of money, and for this thing and for that thing, all of which are overheads, and which cannot be figured directly? They cannot be inventoried.

"These overheads will vary not only with the size of the property, but with the location of the property. Out in my little town, or in any little town, the overhead might be very small, ten or twelve per cent, perhaps; maybe not over eight or ten per cent, depending upon conditions. In the City of New York, they might be sixty per cent. I heard a gentleman, a very prominent engineer, testify before Judge Tayler that, under certain conditions in the City of New York, the overheads were sixty per cent. I did not know it. I was just as much surprised as Judge Tayler was.

"Now, let us see how that figures out.

"Certain items of overheads today, instead of being put on overhead, are put inside in connection with the item. A certain percentage for overheads comes in with grading. A certain percentage for track-laying, and a certain percentage for this thing and that thing. It comes into unit costs, and disappears as a part of unit costs. That is happening, and some engineers are very adroit, enough so that they can conceal a very large proportion of the overhead, and nobody will ever know. That is being done. That is the way they keep their overheads down; but if you will be honest about it and put your overheads where they belong—and by 'overheads' I mean the contingency items, the engineering item, the legal item, the organization item, the interest during course of construction—and not yet consider cost of developing the project, costs of money, or promoters' profit, but leaving those out, they amount to 12½ per cent—they run from 15 to 18 per cent up to 25 or 30 per cent. Now, if you add all of these other things, they actually come up to between 30 and 40 per cent, and in certain instances, as high as 50 or 60 per cent, as this gentleman testified to in the City of New York."

I have already cited and discussed in Chapter XI of this report Professor Cooley's theories of depreciation as set forth in his testimony and so need not describe them here. Mr. Warren's final question in his direct examination called for "just a word about the different methods of valuation." Professor Cooley's answer is found at pages 265 and 266 of the Proceedings, as follows:

"In talking about the valuation we are asked, 'What do you mean by valuation?' Well, of course, we have the historical valuation or the book valuation or the cost of reproduction method or the cost of reproduction less depreciation; the cost of reproduction less depreciation being frequently spoken of as the present value, a very misleading term.

"Now, what I have just said about depreciation distinguishes the difference between the cost of reproduction and the cost of reproduction less depreciation, because the cost of reproduction less depreciation is about 85 per cent, so I do not need to say anything more about that. Now the historical method, of course, does not need any discussion, because that means just what it says; likewise the book account. Those are the different ones.

"Now, we do not have the historical value. If the property is old and the books have been lost we do not have the book value. So we attempt to get at them in the only practical way that we seem to know anything about, namely, by estimating the cost of reproducing the property under normal conditions or under the conditions as nearly as may be which existed at the time the property was built with respect to the purchasing power of a dollar."

In his discussion of depreciation Professor Cooley had referred to the fact that the Detroit United Railway scrapped its old single-truck cars when they stood "at a physical condition close onto eighty per cent." At the close of his direct examination, Commissioner Gadsden asked Professor Cooley to "say a few words on the subject of obsolescence." This led to his testimony found at pages 266 and 267 of the Proceedings, where he says:

"Take the electric street railway art as an example and compare it, if you like, with the art of gas making. Now the electric street railway art represents an art which has been changing very, very rapidly in the last quarter of a century, whereas the gas-making art, which has existed for seventy-five or one hundred years or more, has been changing but the changes have been relatively slight. In other words, the gas-making art in comparison with the electric is a fixed art and there is not much obsolescence. Take the street railway and take its history. We all of us remember horse-car days and remember how the horse-car was changed into the cable road, in San Francisco, Grand Rapids, Chicago and elsewhere. And then came the electric road back in the late 80's and early 90's. And perhaps as good a practical illustration as any I can give is the situation in Grand Rapids, Michigan. Succeeding the horse-car days they built there a cable road up those hills. I do not think they operated that cable road more than a year, perhaps not as long as that, but a very short time, when they recognized the handwriting on the wall and they then scrapped that whole cable road and converted it into an electric road, the boldest and bravest bit of financing I have ever known anything about. Now, there was a case of obsolescence. The property had only been running a year or so, it was practically new, and yet it was scrapped for obsolescence, and so far as the duct and the cable machinery was concerned it was pretty nearly 100 per cent obsolescent.

"The Chariman: Did the company stand that loss or did they amortize part of it?"

"Mr. Cooley: I have never heard. I have often wondered.

"Commissioner Gadsden: How ought it to be treated economically?"

"Mr. Cooley: Treated economically, of course, they went into it in the best faith in the world and with the knowledge and consent of everyone, and economically, or morally at least, they should be permitted to earn on that investment until they could wipe it out; that is, they should be permitted to earn enough so they could gradually wipe out that tremendous investment. And so far as my experience with commissions goes, they are permitted to earn it and wipe it out.

"Take another case right there in Michigan—the Commonwealth Power Company built a high transmission line from one of the dams up the Muskegon, I think it is, and carried the current into Grand Rapids and the southern towns. They went into the market for copper. They thought copper was going up, everybody thought copper was going up, and they paid 30 or 32 cents, say, for copper, and bought enough for the whole job so as to have it on hand, thinking thereby to profit by the market. But before they got that line erected, copper dropped to 16 or 18 cents and there was 13 or 14 cents. What would we do with it? We were valuing the property under the Michigan Railroad Commission, and the Commission had a special hearing on it and the facts were related to them and they said, 'Gentlemen, we will allow them 30 cents for the copper, what they paid for it. They invested their money honestly, and it was simply one of the turns nobody could anticipate,' and it went into the capital or was set up in a fund to be amortized.

"Commissioner Meeker: But if the amount paid had been subject to the suspicion that not good judgment had been used in making the purchase, would the amount have been allowed just the same?"

"Mr. Cooley: Well, you say good judgment. In my—

"Commissioner Meeker: What the courts usually term ordinary business judgment.

"Mr. Cooley: Well, I do not know just where we would draw the line there as to what would be good judgment.

"Commissioner Meeker: There is a difference of principle there that I want to get at.

"Mr. Cooley: I would say this, if the contract had been carelessly made or they had

not properly looked into the question and just simply went in without any foresight and did it, they should stand for it. But the investigation showed it was honestly done.

"Now take one of the best illustrations of this obsolescence—those street cars in Detroit, which I cited a moment ago, splendid cars. They maintained them out of operating expenses up to this very high condition, and they were maintained in that condition up to the day they were scrapped and double-truck cars took their place.

"Now take the electric art, going back to the early days when we had the little high-speed engine driving our belted dynamo, it was not long, it was in 1893, at the time of the World's Fair, when we had the direct unit still, a small unit. It was not very long until we began to build big dynamos and hook them onto slow moving engines; and in a few years, say, along towards 1900, I do not remember the date, came the steam turbine and small units, first used as excitors for the dynamos driven by steam engines, a few kilowatts capacity, now thrown up to 60,000 kilowatts capacity with the steam turbine, and all that since 1890, say. Now, that shows a succession of scrapping of machinery and street car material through obsolescence."

It will be observed that up to this point Professor Cooley's testimony with respect to valuation relates to the cost of construction, the preliminary and overhead expenses and the provision of working capital, bringing the property up to the point where operation commences. After the Professor's discussion of obsolescence which I have just quoted, Mr. Warren took up the question of development cost as a possible element in the valuation. The testimony on this point is found at pages 267 to 269 of the Proceedings, as follows:

"Mr. Warren: Is the cost of establishing the business a capital charge or an operating charge?"

"Mr. Cooley: I think it has up to very recently been considered a capital charge.

"Mr. Warren: In that case it enters into the valuation and I want to ask you about it.

"Mr. Cooley: Yes, but I think the modern tendency is to carry the cost of establishing the business as a floating debt and amortize it. In other words, it partakes more of the nature of an operating expense in these days than it did a few years ago.

"Mr. Warren: How substantial is it in an ordinary case?"

"Mr. Cooley: It is a very, very substantial item. It is so substantial that in a great many cases it runs from 25 to 35 per cent of the cost of the physical property. It is so big an item as that, so it is very, very important. I know one property in Milwaukee, for instance; it is the heating property owned by the Milwaukee Electric Light & Railway Company. They have kept the books separate for that business. When I made the first analysis of it in 1907 they had ten or fifteen years of life and they must now have twenty-five or thirty years' life. They were plotting the curves for those earnings and for operating expenses. It looked at the time as if it would take ten or fifteen years for the earnings from that company to reach the operating expenses. That is, a period of twenty-five years, we will say, has been required to make the business what we call a going concern, by that meaning a concern in which the earnings of the company, the income, is sufficient to meet all of the outgoes.

"So I would emphasize the necessity of taking into consideration the cost of establishing the business. It has several names. That I think is the clearest name. I would emphasize it particularly, as the tendency today seems to be to treat it as an operating expense.

"Mr. Warren: How would you define it, Professor Cooley?"

"Mr. Cooley: Well, I think the Wisconsin definition is perhaps the best or most generally accepted. It is really a summation, if you like, of the early deficits, that is, a sum of the losses that the company encounters up to the time its income meets its outgoes, and it is very hard to obtain it, because companies until recent years have not appreciated the necessity of so keeping their books that the items of loss can be actually taken out. So it is a very difficult thing to sustain in dollars and cents. But in the future it probably will be a well known factor, no doubt about it at all, because they are keeping their books now so as to tell us what it is.

* * * * *

"Now I might say just a word on that. Now, for example, when before luncheon we had completed our physical structure and were ready to start the property into operation, we had just secured stores and supplies and working capital to enable us to begin to turn the wheels. We start in and it may take six months or a year before we get that property settled so that the machinery all works well and get the wrinkles ironed out. It is the same kind of treatment of the property that we have to make with a locomotive. When we buy it and put it on a steam railroad we have to run it a few weeks under easy conditions, we will say, so as to work out the troubles, precisely the same thing you have to do on board a battleship after it comes from the yard; it has to be run and tuned up. All those

things have to be done before your property is in final shape for operation. Now that all costs money, and when you start to earn you do not earn anything the first day—or the day before the first day it is zero. Then as you begin to operate your business the earnings begin to mount. Meantime you are carrying along as expenses all these daily operating expenses of whatever character, including taxes and interest on the cost and—well, perhaps you would not start any sinking fund or depreciation fund at that time, but if you did that would also come in. And of course the earnings are almost nothing, we will say, the first week or two or three weeks and the operating expenses are very large. Now the difference or that deficiency is one element of this so-called cost of establishing the business. And when you aggregate those losses for a period of years up to the time the gross earnings line crosses the gross operating expense line, and when you sum up all of those losses you have the cost of establishing the business as it is ordinarily understood.

"Now, it is frequently argued, and apparently with a good deal of sense, that the greater these early losses the more valuable your property, because with every loss you are adding to the cost of the property, if it goes into capital. But that is fallacious, it seems to me, because the utility when it is built is built to meet a public necessity. Now the public knows that that property is not going to pay to start with, if they know anything about it at all, and that property has been built and accepted by the public with full knowledge it has got to grow into its business and with a full knowledge that these early losses are to be there; therefore they are a proper cost of the property."

It will be noted that in Professor Cooley's earlier testimony he treats the reproduction-cost-new method practically as a substitute for the historical-cost method of arriving at the fair value of an electric railway property, upon the assumption that in most cases complete records of historical cost are not available; also that in his opinion the full historical cost would be greater than the reproduction cost new in normal times. It appears, however, that at the present time when prices are abnormally high, primarily as a result of the depreciation in the purchasing power of money, Professor Cooley thinks that the historical-cost method is no longer applicable and that the reproduction-cost-new method should be used. His discussion of this phase of the valuation problem is found at pages 270 and 271 of the Proceedings, as follows:

"That brings up the question whether we should use present-day costs or before the war, in other words, whether we should use the costs of reproduction today or the historical cost. I think that is answered splendidly by comparing the purchasing power of a dollar today with what it was when the property was built. I have frequently said that our dollar of today was the 50-cent piece prior to the war. So if you are going to build a property today you will have to build it so far as purchasing power is concerned out of 50-cent pieces.

"Mr. Warren: That has been the experience of the Boston Elevated. They have just been double what they were in the past.

"Mr. Cooley: Well, as I understand it, the purchasing power of the dollar is about 50 cents; so if a property were valued before the war at about around \$100,000,000 it would today be valued around \$200,000,000; if you are allowed to earn the same percentage on the \$200,000,000 of course it would double the income, we will say.

"Commissioner Meeker: But the answer is not quite clear to me, however. If you are arriving at a fair valuation on which earnings are to be allowed, would you depend upon the cost of reproduction today or would you take the historical cost or what would you do?

"Mr. Cooley: I do not think it would make any difference, if you will keep in mind the purchasing power of the dollar and let your earnings vary with the purchasing power of the dollar, that is what I mean. For example—

"Commissioner Meeker: It seems to me the difference between \$100,000,000 and \$200,000,000 is quite considerable.

"Mr. Cooley: True, it is quite considerable, but the \$200,000,000 is precisely equal to the \$100,000,000 as we are taking it. They are different figures but they are not different quantities.

"Commissioner Meeker: That is, the company should be allowed to earn upon the value of the property valued upon the cost of reproducing under current prices?

"Mr. Cooley: Yes.

"Commissioner Meeker: Does that exactly jibe with your statement made this forenoon that the original cost should be taken as the basis? For example, the tunnel through the Detroit River which eventually became the tunnel under the Detroit River; there was about 100 per cent, was it, of contingency or 50 per cent?

"Mr. Cooley: Very large.

"Commissioner Meeker: Very large?"

"Mr. Cooley: Yes, I have forgotten which.

"Commissioner Meeker: \$1,000,000, which was actually spent, and that should not be disregarded in valuing the property today, but the original cost should be taken into account.

"Mr. Cooley: That is all right. Suppose we do take in the original cost, and I think fundamentally that is of course right, there cannot be any question about that. You should take in what your investment is, that is, what the proper investment is, I mean. Now prior to the war that investment was permitted to earn say 5 per cent, and we got 5 per cent and we were satisfied and we were able to do everything we wanted with it, everything that we had to do. Now today what would that 5 per cent do? It would do only half the things we have to do. So if you are going to hang onto the original cost that we have been discussing, the investment cost, you have to allow twice the income from it or else you have got to double the value and take the same rate of per cent, both being precisely equal."

Commissioner Meeker asked Professor Cooley how improvements and extensions made out of earnings should be treated. The witness's reply is found at page 272 of the Proceedings, where he says:

"If they are made out of earnings—the answer has to be a double-barreled one—if they are made out of earnings which ordinarily would go into the pockets of the people who have their money invested in the property, it is equivalent to new capital. If, on the other hand, the earnings have been very large, far in excess of what would be regarded today as proper earnings, then I do not think it ought to go into capital, except there be some legal phases which would require it.

"Commissioner Meeker: You think—"

"Mr. Cooley: I hope I make that clear. Say an 8 per cent earning is permissible and all right and suppose the earnings have been 20 per cent; if in the first case you have got your 8 per cent and have taken some part of that 8 per cent and invested it in new property, it belongs to capital.

"Commissioner Meeker: Some part of a reasonable return?"

"Mr. Cooley: Yes, surely.

"Commissioner Meeker: But anything in excess of what might be regarded as a reasonable return, you think that should not be counted as a part of the original investment upon which the company is entitled to earn?"

"Mr. Cooley: No, I would call that investment by the public, except there be some legal requirement which of course might control."

At page 273, Commissioner Gadsden asked Professor Cooley the following question:

"Take a railway—I think it is entirely a hypothetical question as applicable to street railroads, because in my judgment none of them ever made a fair return on any proper valuation—but do you mean to say that a railroad which had a franchise with the city and a fixed fare of 5 cents—suppose such a railroad made, we will say, 12 per cent net return after operating expenses and fixed charges, amortization and depreciation—do you mean to say that 4 per cent of that, say, ought to go back into the property?"

This question led to considerable discussion, in the course of which Professor Cooley made a distinction between the moral right of the public to the benefit of property constructed out of excessive earnings and the legal right of the company to claim this property so long as the earnings were derived from rates legally fixed or permitted by public authorities. At page 275 of the Proceedings, the witness states his position as follows:

"If the net earnings have been sufficient to give what we are speaking of as a fair return, meaning by that as much of a return as would be necessary to induce capital to come into the business, then I should think all this new property built out of gross earnings should belong to the public who contributed the money for it, if it could be done legally."

Further on, at page 277, Professor Cooley says:

"I firmly believe that a public utility should be permitted to earn enough to make it able to serve the public in the way it wants to be served and to bring the investor a sufficient amount to satisfy him and enable him to do all the things he has to do, and being a public utility I should not want them to earn any more than that. Now that is my own view. Of course, there comes the legal question as to right, and that is another matter."

It turned out, however, that the witness regarded the question of the treatment of investment out of excess earnings as hypothetical so far as the electric railways are concerned, as he was unable to cite any case where an electric railway had built up its property in that way.

It will be observed that Professor Cooley's theory of valuation as outlined by him corresponds very closely with the recommendations of the Committee on Valuation of the American Electric Railways Association. Like that committee, he favors the reproduction-cost-new method based on the prices of today, rejecting unequivocally the idea that accrued depreciation should be deducted in the case of a well-maintained property. He is also a great "booster" for overheads, working capital, and development costs, although he concedes that it is now regarded as better practice to carry operating deficits as a floating debt to be amortized out of earnings, and not permanently capitalized. He does not claim "created value" as a part of railway property. He thinks that valuation is comparatively simple and valuation methods comparatively accurate, but that the public is discouragingly ignorant and not disposed to be reasonable with the electric railway companies. In the valuation of the Public Service Railway and the Public Service Railroad properties in New Jersey, consisting of about 900 miles of track, Professor Cooley used general overhead percentages aggregating 29.94 per cent on land, 35.19 per cent on "equipment" and 46.67 per cent on "way and structures" exclusive of land, figured out in each case in terms of "base cost." The base cost itself was built up from unit prices in which insurance, omissions, specific contingencies and contractor's profit had been included. In the case of land used for rights of way, the base cost was arrived at in most cases by the application of the multiplier $2\frac{1}{2}$ to the market value of the land, to cover the assumed costs of acquisition for railway purposes.

Mr. J. K. Newman seems to agree substantially with Professor Cooley in his fundamental theory of valuation. At page 573 of the Proceedings, he testifies as follows:

"Commissioner Meeker: It is not quite clear to me just how you would obtain a reasonable return. Do you mean a reasonable return upon moneys invested or a reasonable return upon a fair valuation?"

"Mr. Newman: I mean upon a fair replacement value of the property including the cost of the development of that property."

"Commissioner Meeker: In the properties under your control have you followed that scheme or have you depended upon physical valuation of the properties?"

"Mr. Newman: You cannot take the naked physical value. There is lots that does not appear in that, that goes to make up part of the value. It would appear in the cost to any city which would attempt to build a new street railroad system, if it was all thrown out. You cannot find certain elements of value that were there to start with, and are not there today, but they have been part of the cost of the development of the system."

Mr. A. Merritt Taylor, President of the Philadelphia and West Chester Traction Company, formerly Director of the Department of City Transit in Philadelphia and, during the war, manager of the Division of Passenger Transportation and Housing, United States Shipping Board, Emergency Fleet Corporation, prepared a brief memorandum in relation to the valuation of electric railway properties, which Mr. Warren filed with the Commission. This memorandum appears at pages 288 and 289 of the Proceedings. Mr. Taylor does not go into the details of valuation methods but lays emphasis upon the principle

that an electric railway engaged in a legitimate constructive enterprise should be permitted to charge rates that will "yield a profitable return on the true cost of establishing and developing its property and business." Among other things, he says :

"Receiverships will in the near future make necessary many adjustments as between companies and communities. Readjustments should be approached in a spirit of fairness by both parties; and no advantage should be sought by communities because of the present condition of the companies insofar as it has been occasioned by the European war and the excessive costs resulting therefrom.

"Valuation of properties, when resorted to as a basis of fare adjustment, should be made upon the then-cost of reproduction, together with the added cost of producing a condition of readiness to serve. I have no patience with the contention that any community may now properly expect a valuation to be based on pre-war prices or the cost of earlier years. The only justification for such a claim would lie in the supposition that, instead of enjoying increased values in common with others, the companies were to be in some way assured of a continued reasonable return upon the invested capital. Communities did not give street railway companies any such assurance. The companies took the same risks of profit and loss as did the investor in other kinds of property, consequently in such a time of readjustment, it seems only just that the communities should be willing to establish a fare sufficient to pay a proper return on that sum representing the amount which it would cost the city itself to reproduce the property used and usable in transporting the people."

General Tripp's testimony indicates a rather sharp divergence of thought from Professor Cooley and the Committee on Valuation. At pages 161 and 162 of the Proceedings, we find the following significant testimony :

"Commissioner Sweet: In trying to show the general public that the companies were doing what was right and fair, would you consider that the capital stock of the companies as it now stands throughout the country should be the basis of earnings or that the value of the physical properties should be the basis for earnings?"

"Gen. Tripp: I do not think you can take the stock as it now stands as a basis for earnings allowed under a new relationship, if that is what you mean.

"Commissioner Sweet: Yes.

"Gen. Tripp: However obnoxious it may be to some of us who are in the business, I see no other method than to base it on the investment of the property, regardless almost of the securities that are outstanding.

"Commissioner Sweet: Would that mean the original honest investment or the present value of the property?"

"Gen. Tripp: I believe—and here I am expressing only my own personal belief; I do not wish to commit the Committee of One Hundred on this point—I believe that the fair method is to take the money that has been honestly invested in the property.

"Commissioner Sweet: Going back in many cases to the horse-car days, and then through the various systems up to the present time, do you mean?"

"Gen. Tripp: Well, it is not such a tremendous job as that. I do not believe that in these days you would find the investment in the horse-car lines ever put forward as a part of the cost of the present system.

"Commissioner Sweet: Some of these roads, however, that are operating today started as horse-car systems.

"Gen. Tripp: Yes; that investment has probably been written off and disappeared in the tremendous increase in investment that has come since those days. I could determine to my own satisfaction in any property, I believe, the amount of investment that was honestly made in the property.

"Commissioner Sweet: Would you arrive at that by an examination of the property itself, and take your own knowledge of the transitions that have been gone through, and perhaps add a little something to it, and fix the amount in that manner?"

"Gen. Tripp: No; I would not do it that way, Mr. Commissioner. I would take the different classes of securities that have been issued on a given property, however many there might be, and it would be easily determined how much money was received for an issue of bonds and what became of the money. These men in the early days did not steal the money. That is a popular fallacy. There was no money taken. The money went into the property. Securities were issued, however, on 'general hopes.' They issued 'general hopes 5's,' if you please, for which no cash was received. Now, it is easy to segregate that class of security from the class of security that was honestly sold for cash, and it does not require a valuation of the property in minute detail to arrive in any given case at a fair investment in a given property upon which to rest a new relationship between the public and the company."

General Tripp is of the opinion that the lower purchasing power of money is a somewhat permanent condition not only in this country, but throughout the world, and he thinks that the high prices of material, as well as the higher wages, are rather permanent. Upon this point, at page 164 of the Proceedings, he says:

"I think that until these tremendous war debts are very largely liquidated there can be no marked reduction in prices, or rather a resumption and a return to the old value of currency. The war debts are half paid today by a depreciated dollar. In the very depreciation of the dollar it pays 50 per cent of the war debts, and it may be a very wise economic law and prevent great national disaster that that should happen. And until these debts have been reasonably well liquidated and taken care of I see no hope for lower prices to any particular extent."

In further discussion of his method of getting at the actual money put into the property as the basis for the recognized investment he testifies at pages 164 and 165 of the Proceedings:

"I think the most feasible method would be an examination into the various classes of securities that have been issued upon an electric railway property from its beginning as an electric railway property and not go back into the horse-car days; that examination to develop what disposition was made of the securities, whether they were sold for cash, and if so, at what price; or, to state it another way, at what discount. I think the history of each company as regards to its security issues would be readily available and that that method would be more feasible than an examination of the books. The books of a street railway company show on its asset side certain arbitrary items which are simply used to offset items upon the credit side and do not in themselves represent in all cases investment in the property. And since these systems are thirty to thirty-five years old and many of them have been through receivers' hands and changed hands, it would be almost an impossibility to trace through the books of account the investment in the property. While, on the other hand, as I have just stated, evidence regarding the different issues of securities is always available."

With respect to the present treatment of the money investment in the original horse-car lines, at page 165, he makes the following suggestions:

"Those electric railways which began as horse railways and were equipped and developed as a system starting with horse railways, like the West End of Boston, for example, probably have as clear a record in regard to their securities issued in the horse-car days as they have in the electric days. I know that to be so in the case of the West End Street Railway at least as far back as 1860, because in some litigation that was had in Massachusetts, the issue being something I have now forgotten, I was employed to report upon the security issues and what became of them, how they were disposed of, from 1860. That went back into the Middlesex Railway time. And I had no difficulty in securing information and getting a statement which satisfied the court as to the disposition of all of those securities back to 1860. * * * * * There are some companies, however, that started by buying up the horse railroad system. That made a clean start. They usually bought the horse railroad system for less than its cost. And I do not believe that in those cases the public would be endangered if they started at that point. So where an electric railway started by buying up an existing horse railway and made a clean start, I would make a clean start there also."

That he thinks this method of arriving at a fair investment value is preferable to a physical valuation is shown by the following testimony at pages 165 and 166 of the Proceedings:

"Commissioner Meeker: You think it is easier and better policy to get at the investment in the way that you have indicated rather than to make a physical valuation of the properties now existing?"

"Gen. Tripp: A physical valuation of the property, Mr. Commissioner, would not determine the investment. It would determine the value, and that value would be figured on some basis of prices. An arbitrary assumption would have to be made as to what period they would take for the purpose of establishing prices on such a valuation. It would be impossible to take each item of an electric railway and ascertain what the original price paid for that particular piece of apparatus was, because in the first place it does not represent the whole investment; it may have been replacement of an original piece of apparatus and the difference between the cost of the original piece and the new piece charged to plant account, while the value of the old piece would be charged to operating expense. So that there is no method of valuation which will determine the investment in the property."

"Commissioner Meeker: Will it not be necessary to make assumptions and hypotheses in getting at actual investment in the way you have indicated?"

"Gen. Tripp: No, I distinguish between investment and valuation. By investment I mean the money that was spent on the property.

"Commissioner Meeker: By that you mean the money that was turned back into the improvement and extension of the road out of earnings?"

"Gen. Tripp: That would be part of it. The other part would be the money received from the sale of bonds and expended on the property; the money received from the sale of stock and expended on the property.

"Commissioner Meeker: And the accounts of the railways will show all of these additions to investment, whether they are additions in the purchase of bonds and stocks or whether they are additions made out of earnings?"

"Gen. Tripp: No, I do not think that the books of account of the companies generally speaking are in such a condition as to show that. And for that reason I have suggested that the books of account be ignored; that evidence be taken as to the securities that have been issued from the beginning on this property, what they were sold for and what became of the money. The mere fact only would be established—did the money go into the property? Having established that the money went into the property, that would be sufficient evidence to call it investment upon which a return is fair and just."

General Tripp is of the opinion that the books would probably show the extensions and improvements made out of earnings, and that such investments should be included in the rate base. At page 166 of the Proceedings, he says:

"The earnings that have been turned back into the property were net profits that the stockholders were entitled to. They chose, instead of taking those in cash to put them back into the property. There is no difference between that method and a method where they had collected the dividends, put them in their pockets, taken the money out of their pockets again and purchased additional securities of the street railway in order to furnish it funds for the necessary development."

With respect to appreciation or depreciation he testified at page 167 of the Proceedings, as follows:

"Commissioner Meeker: Do you think it might be a fair way of getting at the property upon which income is to be allocated to the bondholders and stockholders by taking account of either appreciation or depreciation in the physical properties of the companies?"

"Gen. Tripp: No, sir. My theory excludes the question of depreciation or appreciation."

At page 172, General Tripp explains just how he would treat bond discount and promotion securities. He says:

"In arriving at the investment in a property there should be included as a part of the legitimate investment the discount on securities; that is to say, securities are not always saleable at par and they are sold at the best price obtainable and the difference between the price so obtained and par represents a discount which is a proper investment in these properties upon which a return should be allowed.

"Commissioner Meeker: Would that apply to stocks as well as bonds?"

"Gen. Tripp: Stocks are usually issued at par. I think in most cases and perhaps all stock when it is issued is fully paid at one hundred cents on the dollar. Now it may be paid either in cash, 100 cents on the dollar, or it may be paid in promotion service at 100 cents on the dollar, and between those two classes I would distinguish. Where the stock is sold for cash, even if it was not sold at 100 cents on the dollar, if some law permits it, but if it was the best price that could be received for that stock, the discount there should go into the cost of the property.

"Commissioner Meeker: Then what would be the difference between taking the total bonded debt and all the stock outstanding, except such as was issued for promotion services, sum them and take that sum as the investment upon which returns must be paid to bondholders and stockholders?"

"Gen. Tripp: That is precisely what happens. Segregate the securities that are watered securities so called, prove that the rest of the securities were not watered, and if the rest of the securities were not, they were honestly issued for value. That is the investment in the property."

It will be observed that General Tripp disagrees with Professor Cooley and the Committee on Valuation with respect to bond discount, which he would include in the investment, and promoter's profits, which he would exclude. He is

absolutely at disagreement with them on the question of the readjustment of the rate base or of the rate of return to suit the changes in the purchasing power of money. He states that, in his opinion, it would not be necessary or practicable either to increase the investment base or to increase the rate of return on capital already in the street railway business, on account of the depreciation in the purchasing power of money. In answer to questions by Commissioner Gadsden, he testifies at some length, as shown by the following extract taken from pages 173 to 175 of the Proceedings:

"Commissioner Gadsden: General, in this method of arriving at values you have been talking about, is it not true, referring to the depreciation in the purchasing price of money that you have referred to, that under that system all the loss would fall on the investor? In other words, suppose that a property worth a million dollars, costing a million dollars under your system twenty years ago, is covered by bonds at 5 per cent; under your plan that property today would be, we will say, valued at a million dollars and the return is still 5 per cent. Now admitting that the value of money has depreciated 50 per cent, the investor is getting one-half return on his property, is he not?"

"Gen. Tripp: Yes.

"Commissioner Gadsden: Therefore is it not necessary, in view of this extraordinary depreciation in the purchasing price of money, in order to equalize that situation, either to increase the rate of return or to give the current value of the property in the value of money today?"

"Gen. Tripp: I do not believe so, Mr. Commissioner. It would be lifting yourself by your bootstraps. Currency has depreciated. It was the operation in my opinion of a natural law brought about by the tremendous war debts all over the world. Those war debts have got to be paid. Now in order to do that, the natural law depreciated currency by about 50 per cent and paid off half this debt. The people who had to have immediate assistance because they had no margin of safety to go on were the laborers. Next we find the landlord who had less margin of safety to go on, and he searched for greater income, and he got part of it, but he had trouble in doing it. Labor particularly, then, is not in a position to pay any portion of this war debt. It had no margin to pay it with. It has got to be paid. The people who have got to pay it are the fund owners, the owners of fixed income securities. And if you adjust their incomes by the method you have suggested so they are relieved, you have not done anything, you have just lifted yourself up by your bootstraps and you are right where you were when you started.

"Commissioner Gadsden: Is it not true that the people by your plan would be confined solely to public utilities—

"Gen. Tripp: No.

"Commissioner Gadsden: Would it not be true with investors in every line of business, that their property would be appreciated?"

"Gen. Tripp: No, I think you are mistaken, Mr. Commissioner. There are billions of fixed income bonds held by investors throughout the United States on which they cannot get relief, railroad bonds. Now your theory is that the street railway company could get relief—if it had a 5 per cent bond, it ought to have an increase in return because of the decreased purchasing power of the dollar. Under my theory they are exactly in the same position, the owner of a railroad bond is just in the same position—

"Commissioner Gadsden: Unquestionably, but getting outside of regulated properties, getting to textile properties and the value of steel properties, is not the value of a steel mill today based upon current prices and not what it cost?"

"Gen. Tripp: Yes, but when you get into the question of return on stock in industrials, the industrials are reaping a harvest in this case.

"Commissioner Gadsden: But if you were asked a similar question, what is the value of a shoe factory in Massachusetts or Connecticut today, you would give it current value, would you not? You would not say its value was what the investors put into it in the history of the plant?"

"Gen. Tripp: Well, I would not buy a shoe factory on the basis of present earnings, on the same theory that I would have purchased it before the war. I would have to have a wider margin. There is a distinction between regulated and unregulated industries. My theory asks the public to guarantee a return upon our investment in electric railways. The industrials ask no one to guarantee their return. When hard times come they must take their medicine. Now you cannot regard the investment in a public utility which is practically guaranteed by the public on the same basis—

"Commissioner Gadsden: Do you think the history of the industry as you have shown it today has shown a guaranty of return?"

"Gen. Tripp: No, but I am directing all my testimony here towards the theory which I have promulgated—

"Commissioner Gadsden: Towards the future?"

"Gen. Tripp: That there should be a different relation in the future.

Commissioner Gadsden: Exactly; therefore, is it not necessary to bring the situation up to date to rectify the values of these properties from now on up to date and then keep the account?"

"Gen. Tripp: No, I do not think so."

On the subject of the treatment of superseded property General Tripp "got off the reservation" again. Commissioner Sweet asked him a question based upon the illustration of a country merchant who erects a small frame building in which to conduct his business; he prospers and later on finds this building insufficient for his needs and tears it down and puts up a fine brick structure in its place. The question was whether the cost of the frame building and the cost of the new brick structure taken together, with other moneys actually invested, should constitute the capital upon which the owner ought to make a legitimate profit, and if so, whether that would illustrate the way in which General Tripp's theory of determining the investment in a street railway property would be applied. Upon this point he testified as follows, at page 175 of the Proceedings:

"If I understood your question correctly, I should not think it was quite that way. I understood you to say that the cost of the wooden building would be added in its entirety to the cost of the brick building and that the sum of those two constituted an investment on which he is entitled to a return. Was that your question?"

"Commissioner Sweet: Yes, the entire investment.

"Gen. Tripp: Now, however, in the street railway field the cost of the old wooden building would be charged off against the properties and the cost of the new building would be the amount that it would be entitled to a return on under the system of bookkeeping which has been adopted by the Interstate Commerce Commission, if I am correct.

"Commissioner Sweet: Then if money had been expended by a street railroad company for the purchase of a horse-car system or for changing over from the horse-car system to the cable system or the cable to electricity, do you mean to say all that money should be crossed off entirely and only the value of the electric system taken as representing the capital upon which dividends are to be paid?"

"Gen. Tripp: Yes, speaking generally, because a depreciation item has or ought to have been set up to care for depreciation and obsolescence. Now I would not say that that rule ought to be applied arbitrarily and unjustly. But apparatus that has disappeared will generally be found to have been taken care of out of the earnings of the company and it is an item called depreciation or obsolescence."

General Tripp was then asked whether a physical valuation of the property would be found to equal or exceed the securities outstanding other than the promotion securities to which he had referred. He replied that in most cases he thought the physical valuation would be greater, and in fact knew of no case in which it would not.

Then the question came up as to what had been done with the old properties and he stated that there had been, or ought to have been, set up for depreciation an amount sufficient to amortize the property that had disappeared, such as the old horse railroads. The matter not yet being entirely clear to the Commissioners, General Tripp answered other questions put to him by Commissioners Meeker, Beall, Gadsden and Sweet. His testimony in this connection is found at pages 178 to 180 of the Proceedings, and has already been quoted almost in full in Chapter XXV in connection with our discussion of the relative position of "service" and "profits" as actuating motives in the development of electric railways. At this point in the record, General Tripp expressed the opinion that a properly managed company would have charged off its obsolete property through the depreciation account, so that when it came to renew its bonded obligations it would only have

to take care of the property then in existence. In reply to Commissioner Gadsden's question as to whether, as a matter of fact, in the history of the industry, the street railway companies had set up the reserves to accomplish this purpose, General Tripp says:

"Some have and some have not, and those that have not are today on the verge of bankruptcy, and you will have no difficulty in dealing with those."

Further on he says:

"All those companies that have come under my observation, that have changed from cable to electricity, have been through the hands of a receiver, and the whole thing has been wiped out."

Mr. Henry G. Bradlee, President of the Stone and Webster Corporation, thought the valuation matter was less simple than General Tripp's testimony would indicate. At pages 222 and 223 of the Proceedings, in response to questions by Commissioner Meeker, Mr. Bradlee gives the following testimony:

"Commissioner Meeker: Do you think that the value of the property is most easily gotten at by the method of appraisal of physical valuation, or do you think it can be gotten at easier in some other way?"

"Mr. Bradlee: I do not think the problem is quite as simple as Mr. Tripp stated. The Supreme Court, as I understand it, has pointed out that the money that goes into the property is one element in determining a fair value; that the cost of reproduction is another element in determining a fair value; that the price paid for the property by the then owners is another element in determining the fair value; and that it is necessary to weigh those all more or less and give them some consideration in arriving at a conclusion as to what is the fair value.

"Now, I think it is perfectly true that there are cases in which a fair value can be arrived at by taking the money that has gone into the property. I think there are other cases in which that would lead to an unfair value unless a broader consideration was given to the other factors. Wherever it is possible to arrive at a fair solution of the question by taking the actual cash investment, I believe that that is a simpler thing to get at. I believe it is a thing which is much better understood by the public. I think it makes it much easier to work out a satisfactory solution with the public and I am inclined to adopt that plan and favor it except with this reservation, that there are cases in which I believe that might lead to injustice sometimes towards the investor, sometimes an injustice perhaps to the community.

"Commissioner Meeker: Do you believe that it is essential that we get at a fair valuation of the street railway properties?"

"Mr. Bradlee: I do. I see no way of working out a service-at-cost franchise or any other equitable solution without arriving at some fair value."

Further on, at page 227, Mr. Warren takes the matter up, and Mr. Bradlee gives the additional testimony on valuation as follows:

"Mr. Warren: On that matter of valuation, Mr. Bradlee, in cases where the securities of the company have been issued under supervision by a supervisory board and with its approval, the easiest method would be, would it not, to take the capitalization of the company as the basis rather than either a valuation or an attempt to determine the amount of money that has gone in?"

"Mr. Bradlee: I think that would be easy and that would apply to the State of Massachusetts as a very good example—

"Mr. Warren: Yes, exactly.

"Mr. Bradlee: There for twenty-five or thirty years the securities have all been issued under the direction and control of the Commission and the securities represent the actual cash which has gone into the property.

"Let me say just a word on that. It seems to me if you are going to take the cash that has gone into the property as the measure of value, the cash to be considered and the value to be considered is the entire cash value of everything that has gone in to create that property from the investor or any services, and which has not been paid back. If the investor has had some of his investment paid back to him, that of course cancels that part of the proposition. But in so far as the investor has put in money in good faith and properly, that should be recognized, whether that money has gone into a building which is there today or a building which was there some time ago and has disappeared. If the investor has not got his money back he is still entitled to a return on his money until such time as he is reimbursed for the

capital which he has furnished. So to my mind the essence of the thing is what money has gone in there and not been paid back and everything that enters into that class should be a proper element in the cost of the property."

At page 339 of the Proceedings, the following exchange occurs between Commissioner Meeker and Mr. Francis H. Sisson, who was then on the stand testifying as a witness for the American Electric Railway Association:

"Commissioner Meeker : * * * * The all-important thing, as I see it, is in the arriving at a proper estimate of the value of the properties upon which the street railways are entitled to earn a reasonable return.

"Mr. Sisson: Exactly.

"Commissioner Meeker: That is the all-important thing, is it not?

"Mr. Sisson: Exactly so; yes, sir."

In view of the paramount importance of the valuation, it is perhaps unfortunate that the Commission was unable to go into the matter more fully. As we have seen, the theories advanced by Professor Cooley, which agree in the main with the theories officially promulgated by the Committee on Valuation of the American Electric Railway Association, differ quite radically from the theories advanced by General Tripp. Mr. Bradlee, in his brief testimony on the subject, seems to agree in principle with General Tripp. We have here a distinct and fundamental cleavage between the original investment theory and the reproduction-cost theory of valuation. Professor Cooley expressed the opinion that the full historical cost of a street railway property would, in most cases, exceed the reproduction cost in normal times. The war and the abnormal prices resulting from it have emphasized the difference between the results obtained by the two methods. Professor Cooley and the Committee on Valuation now discard the historical cost method because it does not reflect the change in the purchasing power of money. General Tripp, without denying the depreciation of the dollar, nevertheless takes the view that it is not necessary to make the valuation in terms of the present low priced dollars. The extent of the difference in the results obtained from the use of the two methods of valuation is well illustrated by the "Report of the Engineers Valuation Board in Re Pittsburgh Railways Company" submitted to the Public Service Commission of Pennsylvania under date of August 6, 1919. This board of engineers consisted of two representatives of the Pittsburgh Railways Company, two representatives of the City of Pittsburgh, and the chief engineer of the Pennsylvania Public Service Commission acting as chairman. The board was appointed "in conformity with an agreement between the City of Pittsburgh, certain other municipalities, individuals and associations, complainants * * * * and the Pittsburgh Railways Company and certain of its affiliated, associated or underlying railway companies * * * * to assist the Public Service Commission in arriving at conclusions upon the questions which may properly arise in a hearing to determine the value of the property for rate-making purposes and reasonable return thereon, and the reasonable rates of fare to be charged by the Pittsburgh Railways Company." In its report the board sets forth the historical cost of the Pittsburgh Railways property and its estimated cost of reproduction new on several different bases with respect to the unit prices used. The board found that the historical cost as determined by the records was \$59,069,382, including \$11,271,458 for superseded property, while the estimated cost of reproduction new at prices prevailing as of April 1, 1918,

the date of the valuation, was \$102,842,274. The general results of the board's investigation are clearly set forth in the following extract taken from pages 5 and 6 of its printed report:

"With the purpose of providing those measures of value specified in the Public Service Company Law, the Board has had prepared a statement of the historical cost as determined from the records, and estimates of the reproduction costs of the physical property based upon several interpretations of the fair average price of materials, property and labor.

"We find the cost of the physical property as determined from the records and if reproduced upon the various bases of pricing, to be as follows:

"Basis No. 1—Historical cost as determined from the records, with scrutiny of engineers and accountants, representing actual investment in physical property placed in the service of the public \$59,069,382

"Basis No. 2—Estimated cost of reproduction new at prices ruling when each part of the existing property was constructed and under original conditions of construction..... \$49,324,791

"Basis No. 3A—Estimated cost of reproduction new at average prices of the period 1906 to 1915, inclusive, and under original conditions of construction.... \$56,148,398

"Basis No. 3B—Estimated cost of reproduction new at prices indicated for 1918 by the trend of prices for 20 years previous to 1916, and under original conditions of construction..... \$60,832,200

"Basis No. 3C—Estimated cost of reproduction new at average prices of the period 1914 to 1918, inclusive, and under original conditions of construction.... \$73,560,300

"Basis No. 3D—Estimated cost of reproduction new at the estimated average prices of the period from 1918 to 1922, inc., and under original conditions of construction..... \$84,191,300

"Basis No. 4—Estimated cost of reproduction new at prices and under the conditions ruling at the date of valuation, viz., April 1, 1918.....\$102,842,274

"These figures include real estate and rights of way, organization and development cost prior to construction; engineering, legal and administrative expenses; interest and taxes during construction; cost of financing; materials and supplies and working capital necessary for operation.

* * * * *

"The historical cost as found includes superseded property in the following amounts:

Horse Car System	\$1,542,178
Cable System	3,778,639
Early Electric Equipment and Construction	5,950,641
	<hr/>
	\$11,271,458

"A large portion of this property was superseded when in good operating condition and in particular the cable systems were in operation for only seven years.

"We find the accrued depreciation of parts of the physical property as of April 1, 1918, to have been as follows:

Prices used in

Basis No. 2	\$12,039,600
Basis No. 3A	12,733,100
Basis No. 3B	13,869,700
Basis No. 3C	16,845,200
Basis No. 3D	19,364,000
Basis No. 4	23,775,500

"These estimates are based upon detailed inspection of condition with consideration of elapsed and of estimated remaining life. They include such overhead charges as enter into the cost of replacements."

This quotation from the report of the Pittsburgh valuation board illustrates in a striking way a fallacy that prevails in the public mind with respect to engineering valuations. It seems to be the general opinion of laymen, to which members of the engineering fraternity have undoubtedly given much encouragement, that the value of a public service property is a *fact* that can be discovered by a competent engineer designated for the purpose. Even Professor Cooley, in his testimony, expressed the opinion that "there is not very much trouble now in valuing a property" and that "valuation has been very much simplified, very

much organized, and it is not a difficult matter to procure results, and they are reasonably accurate." It will be recalled also that Mr. J. K. Newman, in his testimony with respect to the basis for the valuation to be used in a reorganization, remarked that "there are parties in line today who will determine that amount, there are men who are following that as a business who will do it." He evidently referred to the appraisal engineers and engineering firms who make a business of public utility valuations. The fact is, however, that no valuation made by an engineer or anybody else means anything at all unless the basis upon which it is made is fully set forth, and then the value of the result will depend upon the judgment of the men to whom it is presented for acceptance. From the point of view of public policy and a clear understanding of the difficulties of the electric railway problem nothing is more important than the recognition of the complexity and elusiveness of the processes of valuation, and the uncertainty of the results obtained. It is no doubt true that two competent engineers representing different interests could make an appraisal of the same property and reach almost identical results in terms of "base cost" if all of the hypotheses, assumptions and limitations with respect to the methods of valuation were laid down in advance by a third party.

It is noteworthy that in the Pittsburgh valuation the engineers representing opposing interests were placed on the board together, and the chief engineer of the Public Service Commission, a supposedly impartial body, was designated to preside over their deliberations. The purpose of such an arrangement was agreement, and as a matter of fact the board was unanimous in reporting the findings above quoted, thus showing that agreement can be reached between opposing interests even in valuation matters when the bases for the determination of value are definitely prescribed, but it will be noted that with respect to the physical property seven different results were arrived at, ranging all the way from \$49,324,791 to \$102,842,274. In fact, both the minimum figure and the maximum figure were derived from an application of the reproduction-cost-new theory, but in the one case it was based upon the actual prices normally prevailing when each part of the property was installed, and in the other case it was based upon the war prices prevailing at the date of the valuation. Moreover, each one of the seven different results was arrived at without the deduction of accrued depreciation. The extreme range is between historical cost with superseded property and accrued depreciation deducted, and reproduction cost new at the "prices of today." On this basis the comparison is between an approximate low figure of \$35,758,324 and \$102,842,274, the high figure.

It is to be presumed that if engineers representing the city of Pittsburgh and engineers representing the Pittsburgh Railways Company had, without collaboration, made a reproduction-cost valuation of the property on any one of the reproduction bases used by the board, considerable differences would have resulted, and these differences would have further confused the issue. For example, even where the rules for a reproduction-cost valuation are carefully prescribed in advance, there will be a wide difference of judgment among appraisers, particularly with respect to structural overheads such as engineering and superintendence, legal, administration and miscellaneous general expenses, interest dur-

ing construction and taxes during construction, to which are sometimes added cost of financing, promoter's remuneration and preliminary expenses in connection with the organization and development of the project prior to construction. The Pittsburgh board reported that it was "unable to agree as to development value, going concern value, and other elements of value." The engineers representing the city reached the conclusion "that the fair value of the property of the Pittsburgh Railways System for a rate base" was \$48,000,000, and the engineers for the company reached the conclusion that the fair value of the property for a rate base was between \$65,000,000 and \$70,000,000. The Public Service Commission fixed the fair value of the company's property, considered as a going concern, at \$62,500,000, but in doing so looked more to the result to be obtained than to the evidence presented, as will be shown by the following quotation from the Pennsylvania Commission's report handed down March 22, 1920:²

"The commission is convinced under all the testimony that even if the evidence would warrant it, a valuation of \$48,000,000 would defeat the very purpose which the city and other complainants have in view, to wit, the rehabilitation of respondent's property upon a new and better financial basis, and the improvement and extension of its service to properly care for the present and future needs of the city and surrounding territory.

"Upon such a valuation, the receivership would no doubt continue until foreclosures of mortgages disintegrated the unified system and left the city and vicinity with a number of separately operated street railway companies, each charging fares, to care for the public. This is unthinkable, and, by this report, we believe that we have laid the foundation for all that the complainants desire, or the public may require.

"At the risk of redundancy, but with a view of retaining the emphasis of our former statements, the commission again refers to the fact that the most important question now affecting the City of Pittsburgh, with respect to its transit problems, is improvement in street railway service; that improvement cannot be secured except by the expenditure of a large amount of money, a part of which, at least, would represent new capital requirements and a portion to be devoted to replacements of tracks, acquiring new equipment to take the place of some that must be superseded. In reaching its conclusion, the commission has at all times had these matters in mind, and its final determination is made with that end in view. It recognized the difficulties in the way of accomplishment, and that conditions which arose in former years are not easily overcome or set aside.

"A program by which the amount required might be so divided that a part would be chargeable to capital and the balance amortized over a course of years would furnish a solution. Under all the evidence of the case, and taking into consideration all the measures of value set forth in the Public Service Company Law, the commission finds that the fair value of respondent's property considered as a going concern is \$62,500,000."

That the determination of fair value for rate purposes is not a simple thing to be referred to and determined by an engineer without the assistance of legal, accounting and economic knowledge, is, of course, well known to those charged with the regulation of public utilities, although, as I have already indicated, it is not so well known to the general public. The complexity of the problem is indicated by the provisions of the law under which the Pennsylvania Public Service Commission acts, and to which it referred in its finding with respect to the Pittsburgh valuation. The Pennsylvania Public Service Company Law contains the following provision:

"In ascertaining and determining such fair value, the Commission may determine every fact, matter, or thing which, in its judgment, does or may have any bearing on such value; and may take into consideration, among other things, the original cost of construction, particularly with reference to the amount expended in the existing and useful permanent improvements; with such consideration for the amount in market value of its bonds and stocks, the probable earning capacity of the property under particular rates prescribed by statute or ordinance, or other municipal contract, or fixed or proposed by the Commission, and for the items of expenditures for obsolete equipment and construction, as the circumstances and the historical development of the enterprise may warrant; the reproduction costs of the property, based upon the fair average price of materials, property, and labor, and the developmental

and going concern value of such public service company; and these, and any other elements of value shall be given such weight by the Commission as may be just and right in each case."

It will be observed that as a result of the complex process prescribed by the Pennsylvania law, the Public Service Commission, after having secured the benefit of the report of the valuation board, made up in the way I have described, finally reached a conclusion that represented, in its judgment, a fair basis for the reorganization of the property, but clearly indicated by its report that neither the considerations which it gave most weight nor the results obtained in the Pittsburgh case could be regarded as setting up any specific standards applicable to other individual properties. The widely differing results reached by the board of engineers from the use of different appraisal bases and the inability of the board of engineers to agree on the intangible values were among the facts upon which the final judgment of the commission was based. It remains to be seen whether the result reached by the commission in the valuation of the Pittsburgh Railways will in that particular case make possible the reorganization of the company and the establishment of Pittsburgh's street railway service upon a basis satisfactory alike to the private investors and to the public. I have referred to the Pittsburgh valuation not for the purpose of criticizing the claims of the city, the claims of the company, or the final determination of the Pennsylvania Commission, but because the Pittsburgh receivership figured largely in the testimony before the Federal Electric Railways Commission, and to bring out the extraordinary difficulty and complexity of the valuation process, and the utter impossibility of accepting as facts the findings of value made by engineers employed by the street railway companies themselves, no matter how detailed and elaborate their inventories and appraisals may be. In fact, this point was brought out by Mr. Gaylord C. Cummin in his testimony before the Commission at its very first public hearing. At page 44 of the Proceedings, we find the following testimony:

"Commissioner Wehle: How do you think the valuation of street railway properties ought to be made?"

"Mr. Cummin: It should be made on the basis of the investment if that can be discovered."

"Commissioner Wehle: In many cases is not that absolutely impossible?"

"Mr. Cummin: Yes; a valuation is always a case of getting an approximation of the truth."

Further on, at page 58 of the Proceedings, Mr. Cummin says:

"You face this situation in a valuation—securing a fair value or physical value or anything else of that kind—that you cannot get the exact truth. If you try to get the exact truth, you will spend so much time in splitting hairs over things that are matters of opinion and have to be based on hypotheses, that your results are not going to be worth the amount of time you put in. What you must expect to get is the closest possible approximation to the truth. You probably can have two thoroughly competent engineers for the same property and they will not agree, even with the best intention in the world, both of them absolutely trying to get at the truth. You cannot expect to get anything better than an approximation, and the thing you must aim at is to get the best approximation that you can get. You have to start from some point in making your fares. Well, now, there is only one thing to do, and that is to work out some way of agreeing upon that basis. It may not be the truth, but if it is the closest approximation of the truth you can get, it is satisfactory as a starting point. After that, with accounting control you can see that the books are kept so that you can keep right on upon that basis."

"Commissioner Meeker: You think the deviation from the mean in these engineers' estimates is within a sufficiently narrow limit so that these various estimates may be taken as the basis of adjusting rates?"

"Mr. Cummin: I would say so in the case of engineers who are recognized as being disinterested. Some of them are not."

The record shows an extraordinary amount of consideration given to the street railway situation in Massachusetts. Reference has already been made to the fact that electric railway capitalization has been under public control for a much longer time in Massachusetts than in any other state and that consequently the evils of overcapitalization have been minimized there. It has also been shown that the higher fare policy was adopted earlier and applied more generally in Massachusetts than elsewhere in the country. It is of peculiar significance, therefore, that the Massachusetts Public Service Commission has seen its way clear to adopt a much simpler formula for the determination of electric railway investments for rate purposes than the formula prescribed by the Pennsylvania law or by the laws and commission practices of most other states. In certain respects the Middlesex and Boston Rate Case, decided by the Massachusetts Commission October 24, 1914,³ just at the beginning of the World War, was an epoch-making case in valuation matters. It marked the definite rejection by a leading state commission of reproduction cost as the principal element in the determination of fair value, and the substitution of what has since been known as the Massachusetts rule, which was set forth in this case in the following language:

"Accordingly, we rule that under Massachusetts law capital honestly and prudently invested must, under normal conditions, be taken as the controlling factor in fixing the basis for computing fair and reasonable rates; that if there is mismanagement causing loss, such loss must be charged against the stockholders legally responsible for the mismanagement; that reproduction cost either with or without depreciation, while it may be considered, is not, under our law, to be taken as the determining basis for reckoning rates."

The reasoning by which the Massachusetts Commission reached its conclusion is illuminating. With respect to the relative merits of the reproduction-cost theory and the prudent investment theory, the Middlesex and Boston report says:

"The reproduction-cost theory has during recent years become a fashionable one among many attorneys and managers of public service corporations. Not very many years ago such counsel and managers would have denounced it as utterly confiscatory. It is obvious that in recent years the rise in prices has greatly increased the hypothetical cost of reproducing much of the property used in the public service. Beyond this, particularly in the west, the fair value theory involves capitalizing, as a basis for rate purposes, enormous quantities of land given to the railroad corporations, besides fixing rates high enough to furnish a return upon the unearned increment of land which was originally purchased at a small price. A fair application of this theory to Massachusetts conditions would be to rule that the Boston and Providence Railroad Company is now entitled to charge fares adequate to make a return upon its right of way into Boston reckoned at the present market values of Back Bay land for residential or business purposes. It would ignore the fact that the railroad originally came into Boston on a right of way consisting of piles driven into a marsh and having, if any, a very small market value. Indeed, in the Minnesota Rate Case (230 U. S. 352) the circuit judge, following the findings of the master, held that the carriers were entitled to a return upon the value of the right of way, taking as its value not only the assumed cost under present conditions, but adding thereto excess values which, as was claimed, the railroad ordinarily is compelled to pay whether obtaining land by purchase or under eminent domain. This doctrine was not sustained by the United States Supreme Court. * * * *

"It is a matter of common knowledge that in Massachusetts during recent years this reproduction-cost theory as a basis for rate-making has been urged on behalf of certain public utility companies, mostly gas companies, that have accumulated out of excess earnings or unearned increment upon land values, large amounts of property not represented by the original capital invested or by the stocks and bonds issued under our anti-stockwatering laws.

"Undoubtedly in rate cases and other cases involving the conflicting rights of the rate-paying public and the investing public, the cost of reproduction may frequently be a fact desirable to be ascertained, and sometimes it illuminates important aspects of the problem presented; it is often the best method of checking up unsatisfactory accounting, particularly when dealing with depreciation. But as a fundamentally controlling principle, no theory could work out grosser injustice—to the rate-paying public in some cases and to the investing

public in other cases — than the reproduction-cost theory. In cases where rates have for years been too high, so that the companies have accumulated out of excess rates paid by the public large amounts which have gone for capital purposes, this theory requires the rate-payer to pay a rate adequate not only for a return upon the capital furnished by the investor or stockholder, but adequate also to furnishing capital and a return upon the capital furnished; it would authorize the capitalization of excessive rates and a return upon that capitalization. This is to put a premium upon extortions, past and prospective. On the other hand, this theory is grossly unjust to prospective investors in that even when the investment is made with entire honesty and with reasonable prudence—yet if, pending the building up of the new business, the plant depreciates below the fair cost to the investors, rates must, under this theory, be made adequate to make return only upon the reproduction cost of the property in its depreciated condition. This amounts to saying that money lost during the earlier stages of a public service enterprise is *irretrievably* lost by the stockholders; that if, perchance, rates have been fixed so low that the rate-payer has for a period of years obtained a service at less than cost, this is the permanent misfortune of the stockholders—and that the public should never, at any time and under any circumstances, be called upon to make up a deficit thus incurred. On this theory copper put into the telephone service at 25 cents a pound is now to be reckoned as worth about half that sum. Every fluctuation in prices involves the ascertainment of a new rate basis.

"This theory is as inexpedient as it is unjust. It should never be forgotten that our public utility companies are not finished. They are in process; they are constantly calling for new capital and of recent years in increasing amounts. They must be kept on good trading terms with the investing public or the whole experiment of private ownership and public regulation of these public utility companies will fail. It is as necessary to attract capital into the public service as it is to prevent the mismanagement of these companies or extortion by them. If regulation is to limit (as it should) the profits of stockholders to a moderate return, not greatly in excess of an investment rate, regulation must also protect, so far as it reasonably may, all investments honestly and prudently made and properly managed in the public service; otherwise there will be no such investments. It is entirely clear that in the long run the rate-paying public as well as the investing public will be best served if regulation makes as its *fundamentally guiding principle* an attempt to protect investments honestly and prudently made and wisely managed. Any other theory involves essential injustice, tends to make the development of our public utility companies a speculation and not an investment, operates as a premium upon various kinds of fraud; invites into the public service undesirable manipulators instead of sound, level-headed business managers; makes every rate case an almost interminable and labyrinthine inquiry into values with endless conflicts between so-called experts.

"What the public interests of this commonwealth obviously need is such regulation and such management of our public utilities that the rate-payers may always feel assured that their rates are based upon making only a fair and adequate return upon capital which has been invested for their convenience and benefit; that purchasers of the securities may know that within the limits of sound management and reasonable and just regulation, their investments are secure; a system in which a premium is put upon good management and discouraging condemnation is visited upon bad management; a system which is simple and capable of economical and efficient administration."

In the Bay State Rate Case,⁴ decided August 31, 1916, the Massachusetts Commission reaffirmed its rule that the controlling element in determining fair value for rate purposes should be the amount of capital honestly and prudently invested in the enterprise. The Bay State decision is of unusual importance, not only because of the size of the property (about 900 miles of track), but also because of the detailed treatment given to various factors of valuation such as "overheads" and "intangibles" in an appraisal based upon estimated original cost. The company's valuation engineers claimed overhead charges incurred in the course of construction to an aggregate amount of 12.74 per cent of the direct property cost. This total was made up as follows:

	<i>Per cent.</i>
"Engineering and superintendence	3.68
"Interest during construction	2.23
"Taxes during construction	0.12
"Insurance during construction	0.48
"Organization and legal expenses	3.00
"Contingencies	3.23
Total.....	12.74"

The Massachusetts Commission allowed 8 per cent for the overheads. The reasons for its conclusion were stated as follows:

"The Commission realizes that much overhead expense in the past, and even in more recent years, has not been segregated in the records; but it believes that the company has failed to sustain the burden of proof in this matter and that its estimate (which is little more than theoretical) considerably exceeds the reality. The fact that other commissions in other cases have allowed a larger percentage has little significance in this case. Most of these other cases have involved dissimilar properties and the overhead charges were figured upon the cost of reproduction. The present Bay State system has grown slowly and a larger portion of its cost represents additions and improvements to already existing property, a fact which has tended to lessen interest during construction. Much of the engineering and superintendence, especially in the past, has probably been supplied by officers whose salaries were charged to operation; and this is no doubt true of other overhead expense. Nor has the construction of railway lines along public ways required a large amount or a high grade of engineering. In the early days, too, engineering on rolling stock and electric equipment was largely supplied by the manufacturers. The item of contingencies, we think, has been considerably overestimated. It is based on the theory that various items of property have probably been overlooked; but the inventory was made in great detail and, as already indicated, covers much property which cannot be seen. Assumptions in regard to the depth of excavations, the character of ballast and ties, the amount of work on the streets, etc., are likely in some cases to favor rather than to prejudice the company. This is true in even greater degree of the assumptions in regard to unit prices.

"After full consideration of all the evidence, the Commission is of the opinion that in this case 8 per cent is a liberal allowance for overhead charges."

The Bay State Street Railway Company in this proceeding claimed an allowance for intangibles under three headings: (1) reward for promoters' services, (2) cost of securing money, and (3) cost of the development of the plant. The Massachusetts Commission found no evidence to substantiate this claim, and therefore made no allowance for these three items. The company also made a claim for "appreciation of land," but the commission rejected it. On this point it said:

"Considering this appreciation upon its own merits, car riders cannot fairly be expected to pay higher fares because land has increased in value, nor ought they to pay lower fares if it should decrease. If the company wishes to sell such property it is, of course, entitled to whatever profit it is able to make; but so long as land is employed in the street railway business it is dedicated to a public use and held subject to the conditions fairly attaching to such use. As the Commission has said in another connection (see House Document No. 1900 of the current year, pp. 88, 89):—

While no fair-minded man will deny that those who put their money into public service by building railroads are entitled to the opportunity to earn a fair reward, and even a generous reward if they serve the public well, the notion that this reward is to be determined, so long as their property is devoted to public use, not by investment or by service rendered, but in large measure by the rapid expansion of real estate prices in the larger centers of population, is contrary to sound public policy. It would mean that communities would be penalized by their own growth, and would lose all advantage from the fact that their transportation facilities were created in due season under favorable economic conditions.

"It should be added that, even if the doctrine of present worth were accepted, the figure to be used in rate-making would clearly be present worth for street railway purposes. In this case no evidence whatever has been submitted that the land has increased in value for such purposes."

Valuation reports could be cited endlessly to show how the commissions and the courts in different parts of the country have handled the problem, but the Pittsburgh case and the two Massachusetts cases are sufficient to establish the contrast between the complex valuation rules in Pennsylvania and the comparatively simple ones in Massachusetts.

The fact that the Interstate Commerce Commission has been engaged for several years upon the stupendous task of valuing the railroads of the country,

and in that connection has been formulating rules of appraisal which, if established in the railroad field, would be applicable for the most part in the valuation of the electric railways, is a matter of great significance in connection with our inquiry into the street railway problem. The Interstate Commerce Commission's rulings in the railroad valuation cases are to be considered, next to the rulings of the United States Supreme Court, as the most authoritative expressions of public policy in valuation matters thus far made.

The Railroad Valuation Act of March 1, 1913,⁵ required the Interstate Commerce Commission to prepare a complete inventory and valuation of the properties of the railroads subject to its jurisdiction, and to ascertain the original cost to date, the cost of reproduction new, and the cost of reproduction less depreciation of these properties. It also required the commission to "state in detail and separately from improvements the original cost of all lands, rights of way, and terminals owned or used for the purposes of a common carrier, and ascertained as of the time of dedication to public use, and the present value of the same, and separately the original and present cost of condemnation and damages or of purchase in excess of such original cost or present value." The Valuation Act also required the commission to "ascertain and report separately other values, and elements of value, if any," of the property of the railroads. The principles of valuation worked out by the Interstate Commerce Commission in performing the work prescribed by the Valuation Act are of especial interest insofar as they relate to the correct rules for the ascertainment of reproduction cost new of a railroad property. The commission's treatment of overhead expenses is one of the outstanding features of its valuation reports.

In the valuation of the Texas Midland Railroad (Valuation Docket No. 2), dated July 31, 1918,⁶ the commission reported that the "original cost to date of each piece of property could not be found with precision," but that from an examination of the company's books the sum of \$2,892,360.94 appeared to exceed somewhat "the amount of money which could have been expended in the property." It reported that the cost of reproduction new of property other than land was \$3,461,356 and that the cost of reproduction less depreciation of the same property was \$2,597,442. It also reported that the cost of the company's lands as nearly as could be determined from the records was found to be \$67,493.44, and their present value \$254,034.99. The commission expressly declined to make any finding as to "the present cost of acquiring, either by purchase or by condemnation, the lands of the carrier devoted to the public use." On this point it cited the decision of the United States Supreme Court in the Minnesota Rate Cases and drew the conclusion that the determination of the reproduction cost of railway lands for railway purposes is "incapable of rational ascertainment." Upon this point the United States Supreme Court in a decision handed down March 8, 1920, has overruled the commission and directed it to comply with the requirements of the Valuation Act.

In the Texas Midland case the commission did not find any values or elements of value in the property other than those specifically referred to in the Valuation Act.

In its findings with respect to the reproduction cost new of the property

it made no allowance under the head of "contingencies," with respect to which Professor Cooley gave such emphatic testimony. It will be remembered that he expressed the opinion that contingencies on the average will come within 10 per cent on base cost, 5 per cent "on the inside, in connection with the details," and 5 per cent "on the outside, spread over." The 5 per cent "on the inside" represents contingencies taken into account in the establishment of the unit prices and does not represent a separate general overhead charge. Therefore, it is the 5 per cent "on the outside" to which the Interstate Commerce Commission devotes itself in its discussion of the general overheads. Its treatment of this item in the application of the reproduction-cost method to the valuation of property used in the public service, as compared with Professor Cooley's treatment, illustrates very well the great differences that arise in reproduction-cost estimates based upon the different points of view of the appraisers. Professor Cooley, as was evident from his testimony, belongs to the class of public utility appraisal engineers who find it difficult to get a valuation high enough to satisfy their investment conscience, because they are impressed with the idea that there are a great many elements of cost in the production of a public service property which are likely to be overlooked by the public. In the Texas Midland case the company took exception to the Interstate Commerce Commission's ruling with respect to the item of contingencies and contended that in "a theoretical reproduction of the property" the same omissions will be made and the same unforeseen difficulties will be encountered as in the case of the original construction of a railroad based upon the engineering estimates. In its report the commission says:

"Experience has shown that it is practically impossible, no matter how carefully such an estimate may have been made, to include all the items of expense which will be incurred in the work of construction. Additional expense is caused by omissions and unforeseen difficulties in the work of construction. Necessary materials are sometimes omitted. From soundings a cut may appear to be made up entirely of earth and the estimate for excavating and digging is based upon this expectation. However, when the work is performed it is found that it contains a large boulder which it is necessary to cut through or entirely remove. This unforeseen condition lengthens the time allowed for construction and correspondingly increases the expense. Frequently quicksand is found where solid earth was expected. Numerous other instances of unforeseen difficulties could be cited which occur and which add to the total cost of the work. In order to provide for expenses of this kind the practice of including a certain sum for contingencies in estimates of the prospective cost of construction has been quite generally adopted."

In the opinion of the commission, however, the situation is entirely changed when it comes to a theoretical reproduction of a property already in existence, as shown by the following discussion found at pages 25 and 26 of the Texas Midland report:

"In our view the theoretical reproduction of a railroad, such as is assumed in valuation work, is materially different from the original construction and does not justify an allowance for contingencies as such. In theoretical reproduction the property to be constructed by the engineer is before his eyes. The topography of the country through which the right of way runs can be observed. He knows the natural difficulties which will have to be overcome. If rock is found, his estimate is based upon cutting through or removing that rock. The exact amount of materials above the roadbed is capable of ascertainment, and no addition should be made for materials omitted. However, with respect to certain materials the carrier is not limited to the amount necessary to duplicate what is actually in the property. This is illustrated by the item of spikes. It is recognized that in laying rail a certain percentage above the number of spikes required is purchased to take care of losses and imperfections, and an allowance to cover these possibilities is made. It is recognized, of course, that in compiling the inventory of the roadway there are certain quantities which are hidden and cannot be observed.

"In estimating hidden quantities the representatives of the commission rely upon the statements of the carriers supplemented by such records as they may possess, tested by the observations of our engineers. These statements and records are accepted unless they appear to be erroneous on their face. Field notes of the commission containing the estimate of the quantities to be allowed are furnished the carrier if desired, and if objected to the matter is thoroughly investigated. In the application of prices to the items embraced in the inventory, we endeavor to compensate for all expenses which will be met in connection with a particular item. The item of grading furnishes a good illustration. We ascertain the price per cubic yard which is proper to apply for grading, and its determination in this regard is guided by prices paid under contracts for work of this character. However, it is recognized that certain work is performed by the grading contractor which is not included in his contract price, such as erecting temporary bridges, constructing ditches off the right of way, etc. To the price per cubic yard which is obtained in the manner indicated above is added an estimated amount to cover the additional expense. A similar addition is made in other cases when necessary.

"The statement that no provision for contingencies has been made by us in this proceeding is therefore incorrect. The figure reported as cost of reproduction new is an estimate of the amount of money necessary to reproduce the identical property under valuation. The inventory is made with great care and the prices applied are arrived at after exhaustive study. Every necessary expense is taken into consideration.

"Since reproduction new is at best an estimate, it is apparent that an estimate arrived at upon a basis as outlined above is as liable to be too high as too low and that therefore there is no warrant for the addition of a definite amount to cover contingencies, but that any allowance of that kind which ought to be made should be and is taken care of in connection with particular items of property."

With respect to the item of engineering the Interstate Commerce Commission made an exhaustive study of the accounts of 121 actual railroad construction projects in different sections of the country ranging from $2\frac{1}{2}$ miles to 900 miles in length, which cost in the aggregate \$302,000,000, and found that the weighted average was approximately 3.6 per cent for engineering expenses. In view of the results of this study the commission directed its engineers to keep their allowances for engineering expenses within a range of from 2 per cent to 5 per cent of the direct cost of the road exclusive of land. It should be observed also that the term "road" does not include equipment.

With respect to several items in the classification of accounts grouped under the term "general expenditures" and including organization expenses, general office expenses, law expenses, taxes, etc., the Interstate Commerce Commission caused its accountants to make a study similar to that undertaken in connection with engineering, with the result that general expenditures other than interest during construction were found to be on the average 1.93 per cent of all road accounts exclusive of land. The commission, therefore, adopted $1\frac{1}{2}$ per cent as the allowance for general expenditures. With respect to the "cost of obtaining money" the commission said:

"Money with which to construct a railroad is usually obtained by the sale of stocks and bonds. Sometimes the money is at first borrowed on short term paper and the bonds are issued and sold at the end of the construction period. The bonds may be issued before the beginning of construction and held as collateral for the short-term paper, or the bonds may be sold in advance of construction. The latter method has seldom been followed. Both methods involve expense. Short-term paper carries with it a certain charge for brokerage, generally not exceeding one-half per cent, while the sale of bonds involves a discount which includes brokerage, dependent upon the rate of interest, the length of the term, and the credit of the company.

"During the early stages of our valuation work an endeavor was made to determine the cost to a carrier under valuation of obtaining money; that is to say, to ascertain the credit of the particular company and the circumstances which would surround its financing. It seemed necessary, however, to abandon this method because it was found to be an almost impossible task, and the result was misleading. The bureau has therefore assumed for this purpose that the reconstruction would be done by a company the credit of which was good and which could purchase supplies at advantageous prices. This policy having been adopted,

it was necessary to determine the rate of interest. Since a railroad with good credit has no difficulty during normal times in borrowing money at $4\frac{1}{2}$ per cent, it was felt that the rate of 6 per cent would be ample to cover all incidental items of expense in connection therewith.

"The carrier objects to this method and states that the assumption that its credit is good enough to enable it to borrow money to build its railroad upon a 6 per cent basis is without foundation in fact, but that should an assumption such as above indicated be correct, 6 per cent is too low to cover the entire cost, which would include commissions, syndicating, and other expenses. Eight per cent is suggested as proper in the present case.

"There are undoubtedly instances where it will be found that should the carriers be left entirely to their own resources they probably could not borrow money at any rate of interest in a sufficient amount to cover the entire cost of construction. Assuming that reconstruction would be done by a company the credit of which was good, the cost of reproducing properties on the basis here assumed will be fairly comparable in all cases."

The commission's rule for estimating interest during construction is found at pages 32 and 33 of the Texas Midland report, as follows:

"The rate of 6 per cent interest having been approved, it remains to consider the length of time for which this rate should be applied. Interest for one-half of the construction period has been generally allowed in the valuation of public utilities. Since, however, in determining the construction period in the instant case no time has been considered for preliminary work as such, the question arises whether or not one-half of the construction period is sufficient. It is assumed by us that a railroad company would have a sufficient amount of money on hand at the beginning of each six months to cover construction expenditures for that period. A study of the active construction of certain roads shows that when expenditures begin they continue at about an even rate to the end of the construction period; that is, for the total number of months during which construction continues, the outgo per month is about uniform. Therefore, if the assumption that the money required for each six months is on hand at the beginning of that six months is reasonable, and we find that it is, the time for which interest should be allowed is one-half the construction period plus three months, which will be ample to cover the relatively small amount of money which is expended prior to construction. This is the method which has been adopted by the bureau, and interest is computed upon the total amount of the road and general expenditures accounts with the exception of land and interest during construction.

"A considerable part of the cost of a railroad is in its equipment. While it is true that as a general rule equipment is not purchased until the road is practically completed, and but little interest is paid on money expended for equipment before operation begins, nevertheless it is necessary to have the equipment some little time prior thereto. For this reason some provision for interest should be made. It is believed that an allowance of three months on the money expended for equipment is equitable. This rule has been adopted."

The commission, following its interpretation of the Minnesota Rate Cases, refused to allow any overhead percentages upon the present value of the land.

The upshot of the matter was that the Interstate Commerce Commission in its reproduction-cost appraisal of the Texas Midland Railroad made an allowance of only 7.6 per cent upon the total base reproduction cost of the property, exclusive of land, for the general overheads.

It is not advisable in this report to enter further into the discussion of the details of valuation, either for the purpose of showing the extraordinary discrepancies that develop in the effort to apply the reproduction-cost theory to the valuation of a public utility property, particularly with respect to the determination of the overhead expenses, land values, and intangibles such as going concern value and development cost, or for the purpose of showing the vast differences in the results obtained, especially in these abnormal times, where different methods of valuation are used.

The appraisals submitted by the companies and those prepared on behalf of the public are often as far apart as the East is from the West, and even where the companies employ half a dozen appraisal experts to swear to their theories of valuation where one is employed by the public, that fact does not make the

appraisals submitted by the companies half a dozen times as reliable as those for which the public contends. The problem of the valuation is not made simple by long discussion and analysis. The courts and the commissions are still quoting the language of Justice Harlan in the epoch-making decision of the United States Supreme Court in the case of *Smyth vs. Ames*,⁷ where he says:

"We hold, however, that the basis of all calculations as to the reasonableness of rates to be charged by a corporation maintaining a highway under legislative sanction must be the fair value of the property being used by it for the convenience of the public. And in order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses, are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth."

Subsequent to the decision in *Smyth vs. Ames*, and quite contrary to the comprehensive language used by the court in that case, the reproduction-cost method acquired such vogue in valuation matters that it was regarded as almost the exclusive method of determining fair present value. In fact, many public utility men still speak of "present value" as being synonymous with reproduction cost, either new or less depreciation. But even prior to the present period of extraordinary prices, the reproduction-cost method was coming into disrepute with the public service commissions. This method is so highly theoretical and lends itself so readily to the vagaries of the engineering imagination in that unhappy borderland where scientific attainments submit themselves to the uses of financial exploitation for a price, that it has been unable to escape the well-nigh unanimous condemnation of thoughtful men who have been given the responsibility for determining the fair value of public utility properties. As an illustration of the present trend of thought in public service commission circles, I quote a resolution submitted by Mr. Paul P. Haynes, at that time a member of the Indiana Public Service Commission, to the National Association of Railway and Utilities Commissioners, at their national convention held in Indianapolis, October 16, 1919, and now under consideration by the valuation committee of the association. This resolution represents a right-about-face in the application of the "fair value" rule, declaring as it does that "the honest and prudent investment" should be given the greater weight in the valuation of public utility properties. The following is the resolution:

"WHEREAS, in recent years the cost-of-reproduction method of evaluation has in many instances become the controlling factor in determining the fair value of the property of public utilities; and

"WHEREAS, during the past few years, there has been an unprecedented increase in the cost of materials and supplies entering into the construction of utility properties; and

"WHEREAS, the cost-of-reproduction method of evaluation, although applied with moderating averages, arbitrarily attaches to properties constructed before the high price period, values greatly in excess of the actual prudent investment therein, in many instances from 25 to 100 per cent greater than such investment; and

"WHEREAS, under present abnormal conditions, the cost-of-reproduction theory has ceased to perform the service which it was designed to perform, and now leads to unwarranted and unreasonable values which offer little guidance in determining the fair value of the property of public utilities; and

"WHEREAS, the continuance of the cost-of-reproduction theory as the controlling factor

in public utility valuations will in the future undoubtedly cast a burden upon those utilities which were required by public necessity to make substantial plant investments during the high price period.

"THEREFORE BE IT RESOLVED, BY THE NATIONAL ASSOCIATION OF RAILWAY AND UTILITIES COMMISSIONERS, that a continued disposition on the part of commissions and courts to consider cost of reproduction or cost of reproduction less depreciation as the controlling factor in determining the value of the property of utilities will tend to impair scientific and equitable regulation, to permit the establishment of unwarranted and unreasonable values, and ultimately to diminish public confidence in commissions and courts, and thereby impair their usefulness.

"BE IT FURTHER RESOLVED, that one of the obligations of commissions and regulatory bodies is to protect and preserve, insofar as it lies within their power, honest and prudent investment in utility properties, and that in view of abnormal price conditions now prevailing, equity, justice and a proper regard for the interests of utilities as well as the public, seem to demand that in the valuation of public utility property greater weight should be given to the honest and prudent investment therein.

"BE IT FURTHER RESOLVED, that it is not intended by this resolution to hold that the fair value rule should be abandoned or impaired, but rather that under the fair value rule and in view of abnormal conditions prevailing, a greater measure of justice and equity will be secured by giving greater weight to the honest and prudent investment, and less weight to the cost of reproduction or cost of reproduction less depreciation."

The issue between the historical cost method and the reproduction-cost method was discussed at the last of the public hearings by Dr. Edward W. Bemis, economist and valuation expert, who appeared as a witness representing the general public. Dr. Bemis considers the valuation as even more fundamental than the rate of return. He refers to the efforts of the street railway companies "before this Commission and elsewhere to generalize and to excite universal public sympathy for all railway companies," and expresses the opinion that each street railway must be considered separately, as "conditions vastly differ." At pages 2105 to 2107 of the Proceedings, he says:

"The great question before the country with regard to these matters in general has been whether they have been getting and are getting a fair return.

"The problem has not been so much what constituted a fair return in the shape of a percentage—that figure running anywhere, usually, from six to seven per cent, as to the whole property, recognizing that part of it is usually in five per cent bonds—but the test has been the valuation on which the return is to be estimated.

"There are two tests, it seems to me, and practically only two tests, of a fair return. There are variations of those two tests, but there are fundamentally only two; and the great problem before the country is the war between those two tests.

"One is the reproduction valuation and the other the historical valuation.

"The reproduction theory is the estimated cost of the reproduction new today, on the basis either of existing prices or the prices of two or three years just past, either with or without depreciation from all causes, physical obsolescence and inadequacy. That is a minor conflict as to the application of the reproduction theory, whether depreciation shall be taken off or not. But the fundamental proposition is the estimated cost of reproduction on prices that exist today and have existed for two or three years, and may, to a large degree, exist for the next two or three years.

"The great opposing test is whether a company is earning a fair return on the actual cost of the property now in use, less depreciation, and with due regard to the history of the investment. If a company has not earned enough in the past to take care of depreciation, an allowance under this theory must be made for it in some form. If a company has not earned enough to take care of depreciation, that does not prevent depreciation having occurred. Depreciation is not a factor of profit. It is a result of physical and functional causes; but the ability of the company to take care of depreciation through its earnings may greatly affect our treatment of it in a rate case, and may cause us to set up a counterbalancing figure in the shape of a going value or something of that kind, if the company has not been able to take care of depreciation.

"On the other hand, if the company has earned much more than a fair rate of return on the actual investment, weight must be given, under this theory, to that fact. I do not say how much weight, but some weight will have to be given to it, I believe.

"Under the first theory, which I call the reproduction theory, the companies do make large claims, and they can properly make large claims, because the results, honestly, carefully

applied, will result in much larger figures than the historical cost. To be sure, I believe they are exaggerated in the minds of many engineers by fanciful estimates, extremely large overhead charges allowed, and development charges, but still, under any application of the theory there will be a very large valuation secured by that method.

"Under the second, which for short I will call the historical theory, which is adopted to a large degree by some State Public Service Commissions, notably in Massachusetts, New Hampshire, Indiana and Illinois, a valuation is reached which is usually much below the outstanding securities—not necessarily in Massachusetts, because there they have kept down the issuance of securities, but in other states that usually is the case.

"This theory, however, in my judgment is not only a popular theory among the great mass of citizens, but I believe it is an equitable theory. It is the theory that had been largely controlling in the United States Supreme Court until the Nebraska Rate Case,⁸ when the mistaken effort was made by the attorneys for Nebraska to introduce the reproduction theory, because it was thought the public would gain somewhat by that theory in the valuation of the Pacific railroads which had been built under war prices; and the courts very largely swung around afterwards to that theory; but they have now split with it in three vital respects, and the Supreme Court now has no definite theory.

"The three respects in which they have broken from the reproduction theory are, first, with respect to paving over mains and conduits. That is no longer allowed by most courts if the paving was put there after the mains or conduits were laid; but it is an absolute logical split from the reproduction theory, not to allow it.

"Again, there has been a split from that theory with respect to the matter of land. In the Minnesota Rate Cases;⁹ Justice Hughes emphasized a position which is neither the historical theory nor the reproduction theory, but takes the value of the adjacent land at the time of valuation, and refuses to put on any costs of acquisition, any overhead, such as interest on the land while the railroad is being built, or engineering or any other charges, although they are always incurred both in the historical theory and in the reproduction theory; but the Supreme Court, perhaps thinking that, even applying that value of adjoining land, you got something nearer to justice than if you took the reproduction theory and then added the overheads on that, adopted a theory which has no logic in it, as I can see it, but nevertheless is interesting because it is a break from the reproduction theory.

"The third break has been in the case of going value. The reproduction theory of going value is based on the cost of reproducing the business. The courts have split from that, and have taken the historical, early losses not made up by later gains, as in the Kings County Gas Case, and in the Des Moines Gas Case."¹⁰

It is often assumed that a "big valuation" is to the advantage of the present investors, but the electric railway business has evidently now reached a stage where its salvation as an industry depends upon a conservative capitalization, with security both as to the investment itself and as to its earning power, rather than upon a large theoretical value which in itself stands in the way of a solution of the problem of street railway credit and street railway prosperity. It is unquestionably important from every point of view that the rate base should not be fixed at so high a figure as to prove the essential and necessary bankruptcy of the industry. From the point of view of public policy, so far as it involves the possibility of a change from private to public ownership and operation, it cannot be denied that with respect to the valuation there is a sharp conflict of interest between the present owners and the future purchasers of street railway property. It is clearly to the interest of the owners to get the valuation of their property fixed at as high a figure as practicable without destroying the possibility of sale. On the other hand, the public has a directly contrary interest in that a low valuation as the basis for public purchase is always desirable from the public point of view and in many cases may be essential to the financial success of public ownership and operation.

This discussion of the valuation has not led us to a definite, final result, either with respect to the fundamental method to be employed in arriving at fair value as a basis for the readjustment of the public relations of the electric

railways, or as to the specific and detailed rules for the application of the method chosen. It has shown, however, beyond a doubt that the electric railways cannot come into the court of public opinion claiming in equity a valuation of their property, either for rate purposes or for public purchase, arrived at in strict accordance with the recommendations of the Committee on Valuation of the American Electric Railway Association or in strict accordance with the rules laid down by Professor Cooley. The "ignorance" of the public is too profound to enable it to appreciate the equity of a method that would, at this stage of the business, make good to the present owners of street railway securities all the losses that they or their predecessors may have heretofore incurred in the street railway business, from the inception of horse-car transportation down to the present time, and that would make up to the common stockholders of the operating companies the losses that the bondholders and the guaranteed stockholders have incurred through the depreciation in the purchasing power of the dollar. In the opinion of many of the witnesses who appeared before the Commission, the American public is "fair-minded" and will give the electric railways a "square deal" when the facts are thoroughly understood. It seems perfectly obvious that the extreme claims presented by the electric railway companies, and by the engineering experts employed by them in most valuation cases, do not have the effect of making the public "understand"; but on the contrary tend to accentuate the distrust and hatred that have already long been characteristic of the relations between urban communities and the street railway corporations. In other words, the electric railways, if they follow the lead of the Committee on Valuation and of the school of appraisal engineers represented in the testimony by Professor Cooley will, in my judgment, be "riding for a fall." Any valuations that may be established in accordance with this leadership in these abnormal times are likely to cause a "backfire," if we may be permitted to use Mr. Babson's expression where he was giving voice to his fear of the results of either public ownership or the service-at-cost plan.

There is something about the prevalent theories of utility service under public regulation that makes it hard for public utility men to conceive of the possibility of ultimate loss to investors in street railway securities. The broad mantle of public interest and public guaranty is expected even to reach back over the generations that are past and to make good *nunc pro tunc* the investments then made on a frankly speculative basis. The public is even expected to ignore the losses attendant upon receiverships and reorganizations in the past and to make good to the present investors the long-forgotten losses which their less fortunate forebears underwent in the earlier days of street railway development. The utility men are not entirely unanimous in making these claims. General Tripp proved to be a notable exception, but the orthodox school of street railway appraisers insists on getting the ancient losses in, whether the historical cost method or the reproduction-cost method is used. The public generally is inclined to approve the actual investment theory without the frills of promoter's profits and hypothetical deficiencies cumulated at compound interest. On this basis, the public will even be lenient with respect to accrued depreciation where it can be clearly shown that the electric railways, under prescribed rates, were in fact

well managed and well maintained and still were unable to earn the depreciation as it accrued. If the experience of the electric railway industry has proven anything, it is the fundamental importance of conservatism in capitalization and the capital account, and the fatal danger inherent in the perpetuation of a load of dead investment. Surely, in these critical times, the electric railways cannot except to repair their broken fortunes on the theory that all things—profits and losses alike—have worked together to enhance the value of their property.

CHAPTER XXXIX

THE RATE OF RETURN

The valuation is fundamental because it is the basis for rate-fixing and also the basis for the purchase price in case the property is to be transferred from private to public ownership. The rate of return does not affect the purchase price, except as the latter is left indeterminate. In that case a high rate of return will undoubtedly tend to enhance the purchase price when that comes to be fixed at some future time. In connection with the discussion of a readjustment of the public relations of the electric railways it would not be safe to leave out of consideration the possibility of future public purchase, and this is particularly true where any sort of a service-at-cost plan or any kind of a public subsidy or public guaranty is to be provided. We cannot assume that private ownership is to be continued indefinitely. Therefore, we must discuss the rate of return not merely as a complementary factor to the valuation for the purpose of providing a fair return to the investors from the rates, but also as a factor affecting future public policy with respect to purchase. From the public point of view, a low valuation and a low rate of return are doubly advantageous, as they keep the cost of the service down while the railways remain in private ownership, and put the city in a position to undertake municipal ownership with relative ease and with a relatively good prospect of financial success. For the facilitation of a public ownership program a low valuation is advantageous even though the present owners of the property be given a compensating high rate of return. On the other hand, a high valuation with a high rate of return is doubly disadvantageous to the public, as this combination enhances the cost of service under private ownership and at the same time makes it difficult to inaugurate or succeed in public ownership. Furthermore, while a low valuation even though coupled with a high rate of return is advantageous to the public from the point of view of ultimate purchase, this combination may prove quite disadvantageous to the public in case the policy of private ownership is continued for a long time; for it means a high cost of all new capital brought into the business for extensions and betterments.

This discussion seems to be based on the assumption that the valuation and the fair rate of return are not facts to be ascertained separately, but correlated factors to be juggled with. In fact, the resettlement of the public relations of any given street railway is likely to be a matter of negotiation between opposing interests, a give-and-take process. In these negotiations we cannot expect the present owners of the railways to do other than look out for their own interests, and likewise the public must not be expected to assume an entirely judicial attitude, but it must always be borne in mind that local transportation is a public

function, that it exists for service primarily, and that in the broad sense the public interest is predominant.

With these considerations before us, what is the test of the rate of return to be allowed on property invested in electric railways under private ownership? Is it to be a non-confiscatory rate, a "fair" rate or an effective rate? Where it is a case of reducing charges or of keeping them down by the exercise of the police power, the regulatory authorities are limited by the inhibitions of the Federal Constitution as interpreted by the United States Supreme Court. The rate of return allowed upon the fair value of the property must not be so low as to be confiscatory. Indeed, there is a tendency in the decisions of the Supreme Court to treat the term "fair" when applied to the rate of return as identical with "non-confiscatory." In a broad sense, and subject to many qualifications, six per cent came to be regarded, in normal times, as marking the "dead line" between a fair return and confiscation. It is noteworthy, however, that the Supreme Court, in the case of *Lincoln Gas & Electric Light Company v. Lincoln*, decided June 2, 1919,¹ modified a decree of the district court entered on September 23, 1915, wherein the company's complaint against the validity of a 1906 regulatory ordinance was dismissed, by stipulating that such dismissal "shall be without prejudice to the commencement of a new action to restrain the enforcement of said ordinance hereafter." In rendering the opinion for the court, Mr. Justice Pitney used the following significant, but somewhat inconclusive language (Supreme Court Reports, Law Edition 63, page 582) :

"We cannot approve the finding that no rate yielding as much as 6 per cent upon the invested capital could be regarded as confiscatory, in view of the undisputed evidence, accepted by the master, that 8 per cent was the lowest rate sought and generally obtained as a return upon capital invested in banking, merchandising, and other businesses in the vicinity; 7 per cent being the 'legal rate' of interest in Nebraska. Complainant had not such a monopoly nor were its profits 'virtually guaranteed' in such a sense as to permit the public authorities to restrict it to a return of 6 per cent upon its invested capital. It is not entirely clear, however, that the rate ordinance did so restrict it.

* * * * *

"Perhaps it would go without saying, but in our opinion the decree ought to be modified so as to permit complainant to make another application to the courts for relief against the operation of the ordinance hereafter, if it can show, as a result of its practical test of the dollar rate since May 1, 1915, or upon evidence respecting values, costs of operation, and the current rates of return upon capital as they stand at the time of bringing suit and are likely to continue thereafter, that the rate ordinance is confiscatory in its effect under the new conditions. It is a matter of common knowledge that, owing principally to the World War, the costs of labor and supplies of every kind have greatly advanced since the ordinance was adopted, and largely since this cause was last heard in the court below. And it is equally well known that annual returns upon capital and enterprise the world over have materially increased, so that what would have been a proper rate of return for capital invested in gas plants and similar public utilities a few years ago furnishes no safe criterion for the present or for the future."

This language of Justice Pitney's opinion is clearly dictum, but its intimations as to the probable attitude of the Supreme Court with respect to the rate of return in cases that may come before it under the abnormal conditions now prevailing are very significant. Clearly, very little reliance can now be placed upon the assumption that the United States Supreme Court will sustain as non-confiscatory any regulatory act that does not reduce the rate of return upon invested capital below six per cent.

Moreover, the public utility commissions of the several states generally act

under a somewhat different rule from that laid down by the United States courts in confiscation cases. The commissions aim to reach a result that will be "fair" to the investors and that will be adequate to induce new capital to flow into the enterprise in sufficient quantities to take care of expanding service. They aim to keep well above the "dead line." In the rather celebrated *Passaic Gas Case*, the New Jersey Board of Public Utility Commissioners allowed 8 per cent upon the value of the property. The valuation was hotly contested in the courts, by the company because the commission had not included a separate item for the alleged value of the franchises, and by the municipalities because the commission had included an allowance of 30 per cent of the physical valuation for going concern. The New Jersey courts upheld the commission on both points. In rendering the opinion in the State Supreme Court, which was later adopted by the Court of Errors and Appeals, Mr. Justice Swayze discussed the just and reasonable rate for service, in its relation to the rights of the consumer on the one side and to those of the investor on the other, in the following manner: ²

"On the one hand a just and reasonable rate can never exceed, perhaps can rarely equal, the value of the service to the consumer. On the other hand, it can never be made by compulsion of public authority so low as to amount to confiscation. A just and reasonable rate must ordinarily fall somewhere between these two extremes, so as to allow both sides to profit by the conduct of the business and the improvements of methods and increase of efficiency. Justice to the consumer ordinarily would require a rate somewhat less than the full value of the service to him; and justice to the company would ordinarily require a rate above the point at which it would become confiscatory. To induce the investment and continuance of capital there must be some hope of gain commensurate with that realizable in other business; the mere assurance that the investment will not be confiscated would not suffice."

Justice Swayze clearly assumed that the value of the service to the consumer will always be more than enough to yield a profit to the company. The value of the service is regarded as the ceiling in the room of regulation and the non-confiscatory base line is the floor, and naturally it is assumed that the ceiling cannot sink below the floor or the floor rise above the ceiling. But the analogy breaks down and the figure of speech fails in cases where as a matter of fact the cost of the service including a fair return to the investor exceeds the value of the service. Obviously, the constitutional limitations enforced by the Federal courts are designed to prevent certain types of injustice being done by the affirmative act of public regulatory bodies, while the public service laws of the states are designed to promote justice affirmatively, as well as to restrain private corporations engaged in rendering public service from doing injustice to the people who are dependent upon them for the service. It cannot be doubted, in the light of the evidence produced before the Commission, that some electric railway enterprises fall within the category where the value of the service to the individual patrons of the line is less than the cost necessarily incurred by the company under present conditions in rendering the service. In such cases it is a futile act for the regulating authority to fix the fair rate of return to the investors unless it be for the purpose of definitely putting the enterprise beyond the pale of regulation.

But our entire discussion up to this point hinges upon the acknowledged necessity for a restoration of electric railway credit in order that new capital may become available for necessary extensions, additions and improvements of trans-

portation facilities. From this point of view, whether under private or under public ownership, the test of the rate of return is its persuasiveness to new investors, not primarily its justice to the investors whose money is already in the enterprise. It is doubtless true that under certain conditions a policy of justice to the old investors will tend to attract new ones; but, on the other hand, it is unquestionably true that a policy of leniency toward existing security-holders, without much regard to the past financial policies upon which their claims depend, will in many cases tend to discourage new investors from coming in. Obviously, if all the losses of the past, whether the result of original bad judgment, poor management, manipulation or outside economic causes, are now to be capitalized and given a perpetual preference in the distribution of the earnings, the new investor cannot see much in the enterprise for him, and he will not come in at all or else will demand a very high rate of return for his speculative risk. Under such conditions receiver's certificates would be infinitely more attractive than junior securities.

It is agreed that the rate of return must be sufficient to attract new capital to the extent that new capital is essential, but what rate will be sufficient depends both upon the conditions of the market and upon the conditions of the investment. We must consider, therefore, both sets of conditions. The unprecedented destructiveness of the World War and the heavy demand for new capital in industrial enterprises in the present reconstruction period have united to produce a relative scarcity of free capital which tends to increase the cost of money. Apparently, it was these things that Justice Pitney had in mind in the *Lincoln Gas Case* decision. It is not clear from the language he used whether he also had in mind the thought that the decrease in the purchasing power of money affects the rate of return demanded by capital. That this thought is in the minds of a great many who have given attention to the problems of public utility regulation is clear not only from the testimony before the Commission, but from other sources. For instance, very recently in a letter discussing the advantages of the actual-investment theory over the reproduction-cost theory in valuation, a state public service commissioner expressed himself as follows:

"Almost all commissioners, I believe, have made the mistake of holding the rate of return down almost to pre-war levels. If in 1915 or 1916, a general policy had been adopted in which rates of return were increased in measurable degrees relating to the increased cost of money and to the decreased purchasing power of money, I am convinced that there would not now be a general demand for values based on high war prices.

"It seems fundamental to me that there should be stability to utility values. The most equitable and the most practical method of securing such stability is to follow closely the actual investment. This done, thereafter the rate of return would fluctuate to compensate for constantly changing conditions. Such a policy would go far in attracting capital and maintaining credit."

As we have already seen, Professor Cooley also suggested an increase in the rate of return corresponding to the decrease in the purchasing power of money as an acceptable alternative to the use of war prices in the valuation. Professor Irving Fisher also stressed this point. At pages 1332 and 1333 of the Proceedings, referring to the testimony given by Corporation Counsel William P. Burr, of New York City, Professor Fisher says:

"He spoke about the income which the investor in street railways was getting today and tried to make out that he was getting a fair return on his investment. Now if 6 per cent

was a fair return on a company which was capitalized before the war at a certain amount, 12 per cent is a fair return today on that same capitalization, because the price level has doubled. Twelve per cent today is only 6 per cent on the basis of a recapitalization in terms of our present cheaper dollar, our fifty-cent dollar. That is, he made the mistake of counting—suppose a concern was capitalized at \$100,000,000 before the war and is earning \$6,000,000 today, he says that is 6 per cent; but it is not 6 per cent, it is only 3 per cent. Six million dollars today are six million little dollars, and he is taking the ratio of six million little dollars to one hundred million big dollars. He either ought to recapitalize in terms of present prices, which one of the members of the Commission suggested, calling the capitalization two hundred millions in terms of modern purchasing power, in which case he is getting six millions at three per cent, or he ought to transplant his six million little dollars today into the big dollars of the pre-war period, and they would be only three millions of those big dollars.

"To show clearly this shift, suppose you go back to an ordinary case of a stockholder and bondholder in a corporation that does adjust the price of its product quickly and easily, an ordinary industrial corporation, suppose it was incorporated for \$2,000,000, one million in stock and one million in bonds, before the war. And suppose, to take simple figures, that the income is 5 per cent on both of those, that would be an income of \$50,000 to the bondholder and \$50,000 to the stockholder. Today if the prices of this concern have been doubled, as other prices have been, and the cost of producing labor and materials has also doubled, the profits of the concern will also be doubled, and the total income will be, instead of \$100,000, \$200,000; but the bondholder of this \$200,000 will no longer get half. He will still get the \$50,000 which he is entitled to under the terms of his contract, and that leaves \$150,000 to the stockholder, who gets therefore three times as much, the bondholder getting one-half of his value, getting nominally the same value, and the stockholder getting three times the nominal value that he had before, \$150,000 instead of \$50,000. And if the stocks were sold on that new basis the stocks ought to go up three times, they ought to be selling at three times what they were.

"Now, that is called profiteering. It is a necessary consequence of the change in the price level, but it is not the cause of the change in the price level."

In reply to a question by Commissioner Gadsden, Professor Fisher then went on to apply this reasoning to the nickel fare. He had shown that the general prices at the time he was testifying (August, 1919) were about double the prices of the period just before the war and three times the prices of 1896. He said that if the fare of 5 cents was right in 1896, and if the prices of street railway labor and materials on the average have kept pace with the general rise of prices, "then the corresponding fare today would be 15 cents." However, he did not profess any knowledge with respect to the street railway business in particular. At page 1334 of the Proceedings, he says:

"Now, I do not know anything about the labor and materials. You men, of course, are going into that and will inform yourselves whether there have been improvements justifying a lowering in fares or not, and whether the fare was excessive in 1896. But there would be naturally a triple adjustment to put one's self in the same position, if this industry is typical of industries in general."

In all this discussion, Professor Fisher had been treating the return on capital as if it were affected by the change in the purchasing power of money in just the same way that other elements of cost had been so affected. At this point, Commissioner Meeker took up the question as to the relation of interest rates to general prices, and Professor Fisher admitted that interest rates are determined by factors that are more or less independent of price levels. This testimony is also found at page 1334 of the Proceedings:

"Commissioner Meeker: Just there, Professor Fisher, in regard to a 6 per cent return and a 12 per cent return, the interest upon capital, of course, is determined by factors that are more or less independent of price levels, is not that true?"

"Mr. Fisher: Yes.

"Commissioner Meeker: That is, we might have a decrease in interest rates with an increase in the level of prices.

"Mr. Fisher: Yes.

"Commissioner Meeker: That has occurred?"

"Mr. Fisher: Yes.

"Commissioner Meeker: At certain times, historically?

"Mr. Fisher: Yes."

The discussion then went to the point of the effect of contracts and fare limitations upon the adjustment of the rate of return to meet changes in the purchasing power of money. The testimony, at pages 1334 and 1335 of the Proceedings, follows:

"Commissioner Meeker: If we were going to give a 12 per cent return upon a bonded debt—will you explain how you would bring about a readjustment, granting that the purchasing power of the income of a bondholder has been cut in half, how would you bring about a readjustment so that its purchasing power might be preserved and also the capital investment preserved? Because, if you double the income that he is to receive—well, will you expand on that?

"Mr. Fisher: Are you referring to the bondholder or stockholder?

"Commissioner Meeker: I mean the bondholder now.

"Mr. Fisher: I do not think anything could be done for the bondholder now. You have to keep your contracts and get your pound of flesh and—"

"Commissioner Meeker: I misunderstood the reference which you made.

"Mr. Fisher: But with the nickel fare unchanged, which is now worth one-third in purchasing power of what it was in 1896 or one-half of what it was before the war, I suppose you have the chief explanation for the bankruptcy that has been going on and the fact that the stock of these public service corporations, according to Mr. Bahson, has gone down to a quarter on the average, of various stocks of this country, of what they were before the war, and the natural remedy I should suppose would be a raise of fare.

"Mr. Warren: In other words, the stock of a public utility with a limited income is very much like the bond?

"Mr. Fisher: Yes, the stockholders in a public service corporation are really in the same position as the bondholders in an ordinary corporation. I am so accustomed to express it in terms of the bondholder, because I am thinking of the typical corporation, that this exceptional case that you have to deal with is not perhaps adequately emphasized.

"Commissioner Gadsden: On a larger scale is not your position proved and substantiated by the fact that of all the phases of human effort, all lines of activity, commercial, industrial, and otherwise, the only ones which apparently have suffered during the war, we will say, are those the prices of whose product have been fixed by law?

"Mr. Fisher: Yes, fixed by law or contract.

"Commissioner Gadsden: Steam railroads, telephones, telegraphs, gas, electricity, and street railways; everybody else has profited, if you want to put it that way.

"Mr. Fisher: Bondholders, teachers, clerks, and to some extent wage earners.

"Commissioner Gadsden: Yes.

"Mr. Fisher: Now, this produces a kind of social injustice. While, of course, we have to keep our contracts literally, you cannot make an adjustment after you have made a contract, it remains true that there is a grave social injustice done where money has depreciated, to the salaried man, the bondholder and the investor in street railway industries, where the fare is fixed by law, franchise, custom or contract."

It will be noted that street railway bondholders are bound to a fixed rate of return by contract, and that street railway stockholders have not realized an increase in their rate of return, for the reason that street railway earnings are limited "by law, franchise, custom or contract." This goes to show that street railway bondholders are "in the same box" with all other bondholders, and that street railway stockholders are in a different position from the stockholders in unregulated private industries. Therefore, if the existing security-holders of the street railways are to have their rates of return adjusted to the changing value of the dollar by affirmative action of regulatory bodies, it means that they are to be picked out as a special class of security-holders and have the values they have lost returned to them through governmental favor. This would mean that every public service commission or other body vested with power to regulate electric railway rates would be setting itself up in place of the general government to guarantee in its own little field the purchasing power of the dollar.

Such a policy would necessarily lead to intolerable confusion and unthinkable favoritism. For the regulatory authorities either to double the valuation or to double the rate of return, as suggested by Professor Cooley, without at the same time insisting upon a corresponding readjustment of the obligations of the companies to the bondholders and guaranteed stockholders of the leased lines, would result in shifting the stockholders of the operating companies into the industrial profiteering class, while leaving the bondholders and the stockholders of the leased lines to take their losses. Nothing could be further than this from the legitimate exercise of regulatory power for the stabilization of public utility investments.

All this relates to the investors whose money is already in the electric railway business under contractual and regulatory conditions that were well understood at the time when the investments were made. When it comes to the new investors, an increase in the rate of return to correspond with the decrease in the purchasing power of the dollar would be sheer and absolutely inexcusable gratuity; for the capital supplied by the new investors will be measured in terms of the same depreciated dollars in which the interest upon it is paid. The fallacy that because labor is getting higher wages and the prices of materials have gone up, capital too should receive a higher wage, was well brought out in the Cleveland Railway arbitration undertaken in September and October, 1919, and referred to in the testimony. Mr. John J. Stanley, president of the Cleveland Railway Company, testified before the Commission on July 22, 1919, that during the entire time since the Tayler service-at-cost plan went into effect in 1910 the fixed charges on the investment, including the interest on the company's capital stock, had been paid. When asked whether any extensions and improvements had been made during this period he replied that "we are making five extensions this year." He explained that these extensions would aggregate from five to seven miles of new track at a cost of from \$50,000 to \$60,000 per mile. It will be remembered that, up to the time Mr. Stanley was testifying, the rate of return on the Cleveland Railway stock was 6 per cent. The following testimony, at page 595 of the Proceedings, relates to the cost of the extensions above referred to:

"The Chairman: Where did you get the money?"

"Mr. Stanley: From our stockholders."

"The Chairman: You sold new stock?"

"Mr. Stanley: We sold new stock."

"The Chairman: What was that stock sold at?"

"Mr. Stanley: At par. We cannot sell it at any less."

"The Chairman: Was there any trouble in disposing of it?"

"Mr. Stanley: We have not had any trouble. We had trouble when we first started the grant."

The Tayler grant went into effect in 1910, and the trouble the company had at that time in selling its stock at par was due to the fact that the original franchise contract was thought by the investing public not to give adequate security to the stockholders. The contract was thereupon amended to increase the security, and after that the six per cent stock was salable at par even down to 1918. In his testimony, Mr. Stanley explained that after the trainmen's wages had been increased to 60 cents in Detroit, the Cleveland Railway employes came forward with a demand for the same rate. The matter was referred to the

City Council, with the result that the increase in wages was granted and the company got an increase in its operating and maintenance allowances, and also got the permanent maximum rate of fare changed from 4 cents and a penny for a transfer to 6 cents and a penny for a transfer. Also the city was induced to submit to arbitration the question as to whether the company should have 7 per cent on its stock instead of 6 per cent. Mr. Stanley's testimony, at page 597 of the Proceedings, is as follows:

"The Chairman: And what return on the capital does the contract fix?

"Mr. Stanley: Six per cent.

* * * * *

"The Chairman: In this negotiation, you say the union wanted 60 cents an hour?

"Mr. Stanley: Yes.

"The Chairman: And then the stockholders came along and wanted 7 per cent?

"Mr. Stanley: Yes.

"The Chairman: What difference did it make to the stockholders if the union got 40 or 50 or 60 cents an hour, so long as the stockholders got their return?

"Mr. Stanley: Well, the stockholders used the same argument that the men were using, that the high cost of living was so that they had to have more wages, and if that applied to the union, it certainly applied to the stockholders."

Further on, at page 608 of the Proceedings, Mr. Stanley expressed the opinion that the Cleveland Railway stock could not any longer be sold at par on a six per cent basis. He says:

"I doubt very much; in fact, I am satisfied that we could not today sell any of our stock at 6 per cent. We would have to put our stock on the market below par. Now, if that is so, the city should give us a higher rate of interest and allow us to sell our stock at par, or above par."

A few weeks after Mr. Stanley's appearance before the Commission, the arbitration proceeding came on, and considerable testimony was offered both by the company and by the city. The majority of the board of arbitration, in a report signed December 4, 1919, recommended that the franchise rate of return on the capital stock be increased from six per cent to seven per cent.³ It is significant that before the decision was rendered the Cleveland Railway Company withdrew its claim that the rate of return should be increased because of the decrease in the purchasing power of money, as will appear from the following extract from the arbitration report:

"The Railway Company, in the first instance, presented two general reasons why the rate of interest should be raised.

"(1) That six per cent was not a fair return, meaning that the existent stockholders and others who might acquire stock ought to have a larger return upon their investment, due to the decrease in the purchasing power of money.

"(2) That the Railway Company had a certain necessary program of extension and enlargement to meet the requirements of public necessity, and that conditions were now such that they could not finance this program on a six per cent basis.

"The first of these reasons has been eliminated from our consideration, as the Railway Company now disclaims reliance upon it, and furthermore, the evidence discloses that a six per cent return is not yet discarded in this market as a fair return.

"The finding in this hearing must, therefore, rest wholly upon the second reason urged."

The majority of the arbitrators found that a large amount of new capital would be required in the near future to finance necessary extensions and improvements, and upon this basis they proceeded to discuss the issue before them as follows:

"The exact question is, therefore, will the Railway Company be able to finance this program at six per cent?"

"The evidence shows that this railway property has been maintained at a high standard; that it justly enjoys the reputation of being the best managed, best equipped and most successful street car enterprise in the country. We have been shown that a higher percentage of expenditure for maintenance and upkeep has been in force here than in other cities. Experts have analyzed the situation and presented the conclusion to us that by reason of efficient and intelligent executive management, and by reason of the high rate of upkeep and maintenance, a large appreciation in the value of the property has resulted.

"The most important result of this hearing is the full and complete illumination of the question of the safety of the Cleveland Railway stock as an investment. A right understanding of the franchise discloses that the stock of the Cleveland Railway Company is safeguarded and protected so as to become a quasi-municipal investment.

"The city does not guarantee the stock, and that term should never have been employed in respect to it, but the franchise does protect the stock in a way equivalent in effect to a guaranty.

"The protective features of the stock which were developed in this hearing are the conservative valuation originally fixed upon the physical property, and the subsequent appreciation of value due to liberal expenditures for upkeep. The automatic increase of fare, the provisions for arbitration, the semi-public control preventing exploitation by stockholders, the provisions for purchase at 110 in the event of municipal ownership, the power in the city to renew the franchise and the strong probability that the grant will be renewed and so become practically perpetual, and the opportunity for liquidation of the stock by operation at the maximum rate of fare in the event the city does not renew the franchise.

"We have no difficulty in reaching the conclusion that this stock is protected and safe to the investor.

"It does not necessarily follow, however, that because Cleveland Railway stock is safe, sound and dependable as an investment, and a quasi-municipal security, it can be sold in this market on a six per cent basis. The fact that certain industrial securities sell readily on a six per cent basis in this market is not conclusive, and, in fact, has very little, if any, relation to this problem.

"We had before us bankers and financiers whose judgment must be respected, who testify that in their opinion Cleveland Railway will not sell in this market on a six per cent basis.

"None of these witnesses disclosed that they had any very definite and certain knowledge of the protective features of this stock, or that they had interpreted this franchise with the same care and study as the witnesses called by the city. Presumably they have not gone thus deeply into the question. What they had in mind and what they undertook to say was that this is a street railway stock, and suffers from the generally bad reputation of street railway securities. That this railway is in part controlled by the city, and visions of politics are stalking before the public mind. That there is a limit in the franchise on the amount of dividends which can be distributed. That the purchase feature of the stock by the city and the renewals which the city may grant are merely options and not obligations. These impressions which they find in the public mind and which they partly endorse, together with the fact that numerous seven per cent safe offerings are coming into the market, turns the scale in their opinion, against the Cleveland Railway security.

"Any of the financial experts could easily be convinced on close study of the franchise provisions, that the views of the public about the stock are wrong, but their testimony relates merely to the view of the public and not to whether it is right or wrong, and they very well understand, as does everyone, that no campaign of education with interpretations from experts could be carried out as to convince the public of its error. The public mind engaged in buying securities does not operate in that way. Hence they testify that the stock will not be sold on a six per cent basis, and no one testifies that it will.

"If it be accepted as the only opinion before us that Cleveland Railway stock will not sell in competition with other seven per cent securities unless it also earns seven per cent, then the interest rate must be raised if the Cleveland Railway is to continue to serve the public."

It is significant that the arbitrators, while finding that the Cleveland Railway stock was "protected and safe" to the investor, were of the opinion that it suffered from the bad name of street railway securities generally, and based their final recommendation upon what they thought, in the light of the evidence presented, the investing public would do. Mr. Henry J. Davies, Secretary and Treasurer of the company, testified in the proceedings that in his opinion the company could continue to finance itself upon a six per cent basis if the franchise were amended so as to provide for the amortization of accrued depreciation and capital not represented by physical property. In this connection it should be said that the physical property in existence in 1909 was put into the capital ac-

count on a depreciated basis, but that no provision was made in the franchise for the accruing depreciation on additions and extensions, except that the entire physical property, old and new, was to be maintained at a condition equivalent to 70 per cent of reproduction cost new. Furthermore, property withdrawn from service was to be charged against maintenance at the full cost of replacement for identical property at the date of the withdrawal. It was shown that this last provision, as a result of the era of rising prices, had added from \$3,000,000 to \$5,000,000 taken out of earnings to the value of the property. At the same time no provision was made in the franchise for the amortization of \$3,615,000 of commuted franchise value, \$1,158,000 of unpaid rentals and about \$2,000,000 of pavement which were capitalized under the Tayler grant. The net additions to capital value during the nine years from March 1, 1910, to March 1, 1919, amounted to \$10,124,055. It appears, therefore, that the maximum unprovided for depreciation, namely 30 per cent on the new investment, must have been fully offset by the operation of the peculiar replacement rule of the Cleveland franchise. This would leave the old capital account intact as it was in 1910. In considering the rate of return upon the Cleveland stock it must be remembered that of the total capital value on March 1, 1919, \$28,720,055 was represented by capital stock, a junior security, and only \$5,495,000 by first-mortgage 5 per cent bonds, a senior security. Attention should also be called to the fact that the stock of Ohio corporations—and the Cleveland Railway Company is one—is exempt from state, county, city and school taxes when held by residents of Ohio, though subject to Federal taxes. This point was brought out by Commissioner Beall in connection with my own testimony with relation to the Cleveland rate of return.

I have discussed the Cleveland rate of return at some length primarily for the purpose of disposing of the contention that the rate of return on electric railway investments should be readjusted on account of fluctuations in the purchasing power of money and also for the purpose of showing how large a part security and good reputation have to play in holding the rate of return down even in times like these. We may now turn to the testimony to see what claims are made as to the rate of return necessary to attract new capital under past and present conditions. Mr. Halford Erickson, of the firm of Hagenah & Erickson, consulting public utility statisticians, and for many years an influential member of the Wisconsin Railroad Commission, appeared as a witness for the American Electric Railway Association, and testified as to the cost of capital for public utility purposes. At pages 971 and 972 of the Proceedings, Mr. Erickson says:

"Utilities before the war had to earn about 8% on the full value of the physical property, including the going value, in order to attract the necessary capital. Bonds, for instance, if they bore 6%, would not sell at par, unless there was more property by a good deal behind them than their par value, and unless they were protected by net earnings that amounted to at least twice as much as the interest charges. Stocks were in the same position. They had to have property behind them. Six per cent stock, to sell at par, had to have net earnings behind them that amounted to 10 or 12 or 14%. If they did not have those earnings behind them, neither bonds nor stock would sell at par; that is, on, say, a 6% basis.

"That means this, that the cost of capital in the utility field is measured not by the income basis upon which the securities are selling, but the cost is measured by what you must have in the way of net earnings behind the securities, in order that they may sell on a normal basis.

"I investigated also from time to time, and particularly in 1914, 1915 and 1916, the income

basis on which mortgages were selling in some of our leading cities. A farm mortgage on a good farm, well located, could not cover more than one-half of a good farm, in order to sell on 6% income basis. That may be likened to the bonds covering half of the property. A second farm mortgage, covering at least the investment, would not sell on a 6% basis, unless it received 10 or 12% as interest. In other words, the security was not good, and demanded compensation for the risk. That may be likened to the stocks that come on top of the bonds.

"The result was that the cost of money on a farm, up to the full value of the farm, was over 8% on the full value, the same as the cost of money or capital in the public utility field amounted to over 8%."

In connection with Mr. Erickson's testimony reference should be made to what Mr. James D. Mortimer said with respect to the rate of return allowed by the Wisconsin Railroad Commission, of which Mr. Erickson was then a member, in the Milwaukee fare case decided in 1912.⁴ This Milwaukee case was the first one in the country where a public service commission made a complete valuation and fixed the fares on a big electric railway system without regard to the franchise rates prescribed by municipal contracts. It was an outstanding pioneer case in the development of commission regulation in the electric railway field. At pages 774 and 775 of the Proceedings, Mr. Mortimer says:

"The commission in its decision of August, 1912, held that the railway utility was entitled to a reasonable return upon the fair measure of the utility capital, that that reasonable return was seven and a half per cent per annum, and based upon that assurance I authorized the expenditure in our Wisconsin properties, during the succeeding years, of, roughly, fifteen million dollars. I feel quite sure that we have never earned any seven and a half per cent return in the railway business during the intervening period of time, and the Railroad Commission, in its decision of April 4, 1919, in response to our petition of August, 1918, held that the Commission had never said that the companies were to get a reasonable return during good times and bad times.

"Now, if a reasonable return limited to seven and a half per cent means anything it means that you are going to get it both in good times and bad times. Otherwise, there is no justification for limiting the return to a figure as low as seven and a half per cent. The theory of the computation of seven and a half per cent is that there shall be an allowance for interest approximately six per cent, plus a profit on that for the compensation of the enterpriser of one and a half per cent."

Further on, at page 780, Mr. Mortimer takes up the discussion again:

"Now, regulation by the Wisconsin Commission is presumed to embrace the theory of cost of service. The rates of fare are intended to produce sufficient revenues which will provide all current ordinary operating expenses, taxes and an allowance to insure the future replacement of physical property, and a reasonable return, and in our railway utility the commission has held that a 7.5 per cent return is a reasonable return, and that has been adjudicated by the Supreme Court of the state as fair and proper. At no time during the last two years have we earned any such return.

"The year 1916 was our best year, because our expenditures for maintenance were rather low, but even then the commission held that, during 1916, after making adjustments and operating expenses, charging to depreciation reserve the things that this commission thought should be charged, and things that the previous commission thought should be charged to operating expenses, they found that our return never exceeded 7.6 per cent.

"Now, our experience with the investment of capital in a railway business is such that I would feel no justification in recommending to investors that they put any additional money into the railway business in Wisconsin. I have frequently told the commission that, and it is pretty well understood that some important change has to take place."

Mr. Harold L. Stuart, president of Halsey, Stuart & Company, of Chicago, investment bankers, testified as to the need for a rate of return that will attract capital. At pages 192 and 193 of the Proceedings, he says:

"As an investment banker my idea as to credit on which a street railway company can borrow money in the future is that it will have to be on some plan where the street railway company will be permitted to earn all its operating expenses, proper maintenance, proper depreciation, and a rate of interest on the capital invested which will attract capital.

"Commissioner Sweet: What would that rate be, in your judgment, now?"

"Mr. Stuart: That is a rather difficult question to answer, because the street railways are in such bad repute, but assuming that they were brought to the same standard in public estimation that we will say first-class electric companies are in—

"Commissioner Sweet: Do you mean lighting companies now?"

"Mr. Stuart: I mean lighting and power companies.

"Commissioner Sweet: Yes.

"Mr. Stuart: The rate, I should say, would be from six to six and a half per cent on senior securities. By 'senior securities' I mean first mortgage bonds.

"Commissioner Sweet: Yes.

"Mr. Stuart: Further, my idea of the financial arrangement of the future, assuming street railway companies are going to be privately owned, and give first-class service and make extensions when needed, is that the relationship between the municipality and the railway company will have to be such that it will be attractive for a stockholder, or for a man who buys stock, to invest in stocks, because it is bad finance, and will never work out for any corporation to keep on borrowing money, always putting out senior securities. It must have a senior security, which will necessarily bear a comparatively low rate of interest, and a junior security furnishing the margin, which would bear a higher rate of interest. In other words, the first mortgage bonds and stock. Unless some plan for safe credit is worked out, it is hopeless for street railway companies to expect to get money, in my judgment."

Later on, Mr. Warren took the matter up for the purpose of getting Mr. Stuart to elucidate the relations between junior and senior securities. At pages 197 and 198 of the Proceedings, we find the following testimony:

"Mr. Warren: You spoke of a rate from 6 to 6½% on senior securities of street railways, if the street railways were now enjoying the same position in public confidence that the electric lighting companies enjoy, and of a higher rate for the junior securities, which, I suppose, is ordinarily stock.

"Mr. Stuart: Ordinarily I assume to be stock.

"Mr. Warren: How much higher?"

"Mr. Stuart: Well, I should say from 1 to 2%.

"Mr. Warren: Higher than—

"Mr. Stuart: Higher than the senior securities.

"Mr. Warren: Is there any general rule or practice in investment banking houses respecting the earnings which a utility should show in excess of the interest required on the bond issues?"

"Mr. Stuart: There is not any general rule, but, as I said in the beginning, the investment banker has no control over money of his clients, and unless you present a street railway security, or any other security with a proper value and proper earning restriction, proper earnings statement, proper depreciation fund, or proper sinking fund, proper escrow provisions in the mortgage, the investor won't buy it. Unless he thinks he is well protected, the buyer of bonds would not buy bonds. He is conservative, and unless he thinks he is well protected, he won't buy bonds.

"Mr. Warren: As far as the earnings are concerned, he would expect the company to show considerable earnings in excess of the money necessary to pay the interest on the bonds?"

"Mr. Stuart: The general rule, without however being a rule, is that the senior security, the first mortgage bond, to be considered a safe security and to be in good standing, should earn twice its interest charges or more."

With respect to the relation between the two classes of securities under a service-at-cost franchise, Mr. Stuart testifies at page 198, as follows:

"Commissioner Sweet: Under the service-at-cost plan, would not the senior securities, the stock and everything, be substantially on the same basis, and all practically guaranteed by the public?"

"Mr. Stuart: No. They would, to some extent, but there might be conditions that would come up in any one year that would make the showing for the junior securities a little less favorable, perhaps, than it should be. Then, another thing: The buyer of the senior securities, if he has a big equity behind him, is going to buy those securities at a good deal less rate of interest than he would were he furnishing all the money, and at times of panic or times of stringent money, when the street railway company finds it necessary to borrow, if they have a senior security which has a big equity behind it in the shape of junior securities, they can always raise the money on those senior securities, either by selling the securities, or by hypothecation, until such time as money conditions ease up. For instance, the average rate of interest—suppose that it should be, we will say, 7 per cent. Now, if you paid eight

on your junior securities and six on your senior securities, the average, you will see, would be 7 per cent, a very much better financial set-up, and if a corporation is always in a position to borrow money, it is always sure of serving the public properly."

In Chapter XXIII of this report, I have already quoted Mr. Francis H. Sisson to the effect that 5 per cent electric railway securities guaranteed by the City of New York or by the State of New York would be attractive to investors. Further along, at pages 344 and 345 of the Proceedings, Mr. Warren takes up with Mr. Sisson the rate of return that would be necessary under a service-at-cost arrangement without a public guaranty. The testimony on this point is as follows:

"Mr. Warren: When you speak of 5 per cent under a service-at-cost, that was predicated on an absolute guaranty of 5 per cent?"

"Mr. Sisson: Exactly.

"Mr. Warren: Now suppose that the allowable return under the service-at-cost arrangement, which included all the proper elements, included finally a return on the investment value, whatever that was determined to be, dependent upon the ability of the road at the various rates under the sliding scale to earn the return, what then should you say the return under present money conditions ought probably to be in order to induce new capital to come in? That is rather a long question, but perhaps you see the point.

"Mr. Sisson: Yes. When you speak of return, it depends whether you treat the capitalization as a whole or distinguish between bonds and stock.

"Mr. Warren: I treat it both as a whole and in part, and I would like to know your opinion as to the wisdom of those two methods, too.

"Mr. Sisson: I think that on that basis—

"Mr. Warren: This is without any guaranty other than what the business would insure.

"Mr. Sisson: Viewed from the standpoint of the paying public I should say that a bond would have to bear an interest rate of at least 5½ per cent to be salable and that a stock would have to have a reasonably assured return of not less than 8 per cent to be salable.

"Mr. Warren: And I suppose it follows from that, that if the return were going to be a flat return on the entire investment value, it would be a combination of those two?"

"Mr. Sisson: Yes.

"Mr. Warren: An average of those two?"

"Mr. Sisson: Yes."

At pages 348 to 350 of the Proceedings, in response to questions by Commissioner Sweet, Mr. Sisson goes into further detail with respect to the necessary rate of return upon stocks and bonds under a service-at-cost plan, as appears from the following:

"Commissioner Sweet: There is one point that is not quite clear to me, Mr. Sisson. You have stated that you think there should be a qualified guaranty, as we speak of it, of at least 5½ per cent on bonds in order to enable the companies to get their needed capital, and 8 per cent or thereabouts on stock. Have you not reference, when you say that, to the conditions that have prevailed heretofore in the relation between common stock and bonds?"

"Mr. Sisson: Well, no. I was speaking broadly about what I conceived to be a sound—

"Commissioner Sweet: There never has heretofore been any guaranty upon common stock whatever.

"Mr. Sisson: No.

"Commissioner Sweet: And the purchasers of common stock have realized there was more of a speculative feature in their purchase and ownership of stock than the holder of the bonds.

"Mr. Sisson: Yes.

"Commissioner Sweet: They might get one or two per cent or they might get ten or fifteen per cent on the common stock.

"Mr. Sisson: Yes.

"Commissioner Sweet: Now if the public was to stand behind this matter and so adjust the rates, the fares that could be charged, that it would produce an income that would make the return upon common stock just as certain as the return upon the bonds, why should there be any difference between the rate that should be obtainable by the holder of the common stock and the holder of the bonds?"

"Mr. Sisson: I had not assumed that the public would make any such definite assurance. I dealt particularly with the cost of capital and answered the question broadly, that in order to sell bonds to the public and stock to the public in a proper financial structure of 60

per cent bonds and 40 per cent stock, the return ought to be about 5½ per cent on the bonds and 8 per cent on the stock; or a reasonable assurance of it. A return upon stock ought to provide for years in which no dividend would be paid, perhaps, and earnings would be accumulated for extensions and betterments and perhaps sinking funds and depreciation. It might not always be possible to declare an 8 per cent dividend annually. It might be greater some years and less others, but a reasonable assurance of an earning of 8 per cent would sell common stock at par, which was the problem I faced in Mr. Warren's question.

"Commissioner Sweet: In your mind would the assurance given by the public to the holders of stock be different and less than the assurance given to the holders of bonds?"

"Mr. Sisson: Well, I assume so; of course, if you are to have an unqualified and positive guaranty, there would be no difference between the two classes of obligation.

"Commissioner Sweet: Suppose it were not a guaranty, but if the matter were left entirely to a state commission to adjust these rates so as to produce enough to pay interest upon the bonds of 5½ per cent and 5½ per cent upon the common stock, if the adjustment of rates were to be such as to enable that to be done, while taking care of the other necessities of the company; would not that be as fair an arrangement as could be made?"

"Mr. Sisson: That does not quite cover the question, because bear in mind—

"Mr. Warren: Without any definite guaranty?"

"Mr. Sisson: Yes.

"Commissioner Sweet: Without any guaranty except that the rate would be changed from time to time so as to as near as possible bring about that result.

"Mr. Sisson: That does not quite cover the question, because, bear in mind, the bonds are a first obligation on the property and the stock does not come in until after that is met.

"Commissioner Sweet: The stock only has an equity.

"Mr. Sisson: That is all, and a man ought to be entitled to a larger return on an equity above the mortgage than the fellow below it, and you could not get the people to take an equity.

"Commissioner Sweet: Would that be the case if the arrangement with the public were such that the amount which would be received by the stockholders in proportion to their holdings would be as great as the amount received by holders of bonds?"

"Mr. Sisson: I think it would, because I think there is no definite assurance of permanency of such an arrangement indefinitely. Political conditions and public sentiment change, and a man who has an underlying mortgage upon physical property is in much stronger position and has greater protection in the courts than a man who has an equity which might be greater or less in accordance with the fluctuation of public sentiment and conditions.

"Mr. Warren: In other words, the fluctuating conditions might affect the possibility of the scale yielding a return on stock, although yielding sufficient to cover the bonds?"

"Mr. Sisson: Yes.

"Commissioner Sweet: In other words, the bonds would come in first for their share?"

"Mr. Sisson: Yes.

"Commissioner Sweet: The holders of stock would have to take what was left after providing for the other needs of the company?"

"Mr. Sisson: Yes, both in earnings and ownership.

"Commissioner Sweet: And under your plan there would be some variation in what the holders of stock would receive?"

"Mr. Sisson: There must necessarily be so; yes, sir.

"Commissioner Sweet: And consequently you think it would be just that the maximum would be somewhat larger than the maximum provided for the holders of bonds?"

"Mr. Sisson: Yes.

"Commissioner Sweet: And that is your reason for it?"

"Mr. Sisson: I think it not only fair but the practical question is that it would be necessary in order to sell stock to the public."

At the close of Mr. Sisson's examination, Commissioner Mecker asked Mr. Warren about the prospects of the Boston Elevated stock under the present 10-year guaranty of dividends. The colloquy, at pages 352 and 353 of the Proceedings, follows:

"Commissioner Mecker: You spoke of the absolute guaranty accorded to the Boston Elevated for ten years. Is there any likelihood that the stocks will sell above 70 with such a limited guaranty as that?"

"Mr. Warren: Well, considering, Mr. Mecker, that a few years ago the stock sold at 150 without any guaranty whatever, it would seem as if they ought to sell higher than that.

"Commissioner Mecker: Well, there is not any possibility, is there, of the stock being rehabilitated so as to sell at par or above under a guaranty limited to ten years, because Heaven only knows what will happen when the ten years is up.

"Mr. Warren: Apart from the guaranty, of course, the company has the right to charge on this sliding scale whatever is necessary to pay the cost of the service including that return. The guaranty is additional to the service-at-cost principle. At the end of the ten years, in other words, the service-at-cost principle involved in that settlement continues.

"Commissioner Meeker: After ten years the service-at-cost principle goes into effect?"

"Mr. Warren: It is in effect now.

"Commissioner Sweet: It is continued?"

"Mr. Warren: Yes.

"Commissioner Meeker: But, Mr. Warren, under that system there never could be any justification for the common stock of the company to go up to such figures as you mention.

"Mr. Warren: No, not with the absolute guaranty.

"Commissioner Meeker: No, whether it was an absolute guaranty or an assurance of rates being changed in accordance with needs, there never could be the possibility of what we might call the gambling advantages which have been looked upon as being connected with common stock under the old system. There would not be the possibilities of great profits.

"Mr. Warren: No, there would not be. You mean under the service-at-cost system?"

"Commissioner Meeker: Certainly.

"Mr. Warren: No, there would not. I assume that there would be some limit fixed. I was asking Mr. Sisson only to get his idea as a banker of where that limit ought approximately to be placed to insure a market for the stock, and I referred to the Boston Elevated stock only as in my judgment confirming his opinion of where the stock ought to be placed. A few years ago street railway stocks in Massachusetts sold on a 4 per cent basis. If their dividends were 6 per cent they sold at around 140 to 130, and some of them earning 8 per cent, of which there were a few, sold for 200 to 220. But that was under our very strict regulation system, so that everybody knew that not only \$100 had been paid in but in the case of the Boston Elevated I think the stock averages the stockholders, not in the market, but in buying it from the company on the original issue, I think it is around \$119 or \$120 a share.

"Commissioner Meeker: Actually paid in?"

"Mr. Warren: Actually paid in. The street railways of Massachusetts—and those figures I have referred to I must put in and will try not to forget it—the Massachusetts street railways, as a whole, with \$102,000,000 par capital show in their balance sheet something like six and a half million dollars paid into their treasuries in addition to par value as premiums, and they really have paid in considerably more, because when that law first went into effect the premium was not set up in the balance sheet as it is now and as the Interstate Commerce Commission's method of accounting requires, but the premium would be paid in and carried to profit and loss and all charged off again. In other words, the property would be marked down by the amount of premium paid in, and my impression is there were two or three million dollars paid in in that way which are not reflected on the balance sheet.

"Commissioner Beall: Mr. Warren, was not one reason for the high price of street railway stock in Massachusetts and also in Ohio, where the Cleveland property is located, the fact that they were legal investment for trustees and had certain exemptions from taxation?"

"Mr. Warren: Yes, and—

"Commissioner Beall: What I want to bring out is under exactly the same conditions and same earning power and same rate of return in certain other states they would not sell for anything like as much, due to peculiar local conditions.

"Mr. Warren: I think you are quite right. In Massachusetts until recently the bonds of all corporations, and which made it impossible for trustees to buy bonds to any great extent, and the stock of all corporations not organized under the Massachusetts law were taxed on their principal value at the local rate, so that a 5 per cent bond selling for par would have to pay a tax in most towns and cities of approximately \$20, reducing the yield to 3 per cent. And the same would be true of the stock of a New York corporation selling in Massachusetts. That made a very marked differential in favor of the Massachusetts stocks."

The effect of an absolute state guaranty on the bonds of a financially weak company is seen in the fact that the Board of Public Trustees operating the Eastern Massachusetts Street Railway Company under the special service-at-cost act of the Massachusetts legislature applicable to that company was able in 1919 to dispose of \$2,500,000 of the company's 6 per cent serial bonds at par because these bonds were guaranteed by the state of Massachusetts. It will be remembered that the common stock of this company is entitled to earn six per cent dividends if it can, but that these dividends are not guaranteed. On the other hand, as explained by Mr. Warren, the Boston Elevated Railway Company, also operated by a board of public trustees under a special service-at-cost

act, has a state guaranty of the dividends on its common and preferred stock extending over a period of ten years from 1918. The common stock is to draw 5 per cent for each of the first two years, $5\frac{1}{2}$ per cent for each of the next two years, and six per cent for each of the six years thereafter. If the state chooses to continue to operate the road after the ten-year period expires, the six per cent dividend will continue under the state's guaranty; otherwise, the road will be turned back to the company with the promise of the right to charge any rate of fare that may be required to enable the company to earn the six per cent dividends, but with no guaranty of its ability to earn the dividends, and no contractual guaranty that the state will not repeal its promise with respect to the company's freedom to control its own fares. The company's bonds are, of course, a first lien on its property and earnings. The company's capitalization is about evenly divided between stock and bonds. Under these conditions, the trustees were able to sell in 1919 one and one-half million dollars of one-year six per cent bonds at 98.73 and another one and one-half million dollars of five-year six per cent bonds at 93.79. In either case, the bonds were sold on about a $7\frac{1}{4}$ per cent interest basis. In September, 1919, the Boston Elevated 7 per cent preferred stock was quoted at about 88 and the common stock at about 64. It is apparent from these figures that the high rates now demanded by new investors in most street railway stocks and bonds are the result primarily of risk, not of the scarcity of capital or the low purchasing power of money. If the rate of return upon new capital is to be kept within reasonable limits, the credit of the electric railways must be restored and this can only be done by giving both the investment and the annual return thereon a degree of security which neither enjoys at present.

The program advanced by witnesses for the Electric Railway Association is to increase the rate of return until the investors are willing to bite. At page 859 of the Proceedings, Mr. Richard Schaddelee says:

"I am sure the American people desire that utilities serving them shall be empowered to collect a charge or fare that will enable them to earn their fair and reasonable operating expenses, taxes, depreciation, etc., and in addition a sufficient rate of net return on their investment to make the investment in street railways attractive to the investor. The people know that only on that basis will the street railways be able to extend and improve their properties, and have them keep pace with, or abreast of, the growth of the communities, and the increasing demands of the public for more adequate and superior service."

Says Dr. Thomas Conway, Jr., at page 956 of the Proceedings:

"Now, I want to make it clear before I begin this discussion that I am absolutely convinced, as I feel anyone must be, that, with private ownership and operation, the electric railway business must, in some fashion, get sufficient revenue to equal its operating expenses, to set up a proper amount for maintenance and depreciation, and to give a fair return upon the value of the property, because as one of you said this morning, these properties are never finished, new capital is required from day to day and from year to year. To get that new capital and to provide the facilities which the public demand and have a right to expect, it is necessary to give these companies a fair return. It is not a matter necessarily of equity, as I see it, from the public standpoint. It is a matter of self-interest. The average man will have to realize that the giving to the owner of the street railways a fair return is not a gratuity or charity, but is just as much to his interest as it is to the owner's interest, if he wants to get good car service, or indeed, for any length of time, any car service worthy of the name. He has to do that. The ordinary man thinks to give the owner a raise of fare is the same thing as giving a beggar a quarter. At least, many people feel that way. They do not realize that their interest is fully as great as that of the security holder."

In his enthusiasm for the processes of reorganization, Mr. J. K. Newman even suggested ten per cent as a compensatory rate, in view of the miseries the electric railway men have had to go through. But Mr. Newman's plan to give the bondholders and preferred stockholders, representing the actual investment, from 5 per cent to 7 per cent on their money, and keep the balance of the 10 per cent return on the valuation for the common stockholders, is still on paper. As Mr. Warren wisely remarked: "You first have to catch your ten per cent." Nevertheless, this 10 per cent rate is being taken seriously by some of the electric railway men at least. The so-called Jenks service-at-cost bill, prepared by the New York Electric Railways Association and introduced in the legislature on April 1, 1920, about three weeks before final adjournment of the session, contained the following provision applicable to service-at-cost agreements entered into between municipalities and electric railway companies:

"d. Return upon investment. The company shall receive in quarterly payments out of gross revenues a sum equal to ten per centum of its investment value as agreed upon or fixed by arbitration. Until such investment value shall have been determined, such return shall be at a rate sufficient to pay at least all existing fixed charges, rentals and all other compulsory obligations necessary to prevent mortgage foreclosure or the disintegration of the system of the company as operated at the time of the passage of this act."

This bill was pressed very seriously by the electric railway companies during the closing days of the 1920 legislative session and failed of passage in the assembly only by a narrow vote. It seems reasonably clear that salvation does not lie in ten per cent. Now, of all times, it is essential to keep the cost of local transportation service down at every point where it is reasonably possible. This is absolutely essential from the public point of view, and almost equally essential from the point of view of the electric railway companies. Ten per cent as a standard rate of return in the electric railway field is a prohibitive rate, and if such a rate is necessary to attract capital under private ownership, there will be no choice left but to go to public ownership.

Certain additional points must be considered before we leave the discussion of the rate of return. To what extent shall the rate of return provide for the amortization of capital on account of accruing depreciation? To what extent shall the rate of return provide for a surplus to be accumulated against a rainy day? Shall the rate of return be based on some sliding-scale theory designed to encourage and reward efficient management? Shall the rate of return be applied uniformly to the entire investment, old and new, whether represented by capital stock or by bonds? Shall the rate of return be flexible so as to adjust itself to changing market conditions?

To my mind, the best treatment of accruing depreciation requires that it be returned to the investors up to the full amount of the difference between the original cost of the property and its cost less normal, or permanent depreciation: or else that it be put back into the property out of earnings for the benefit of the investor. Upon this theory the rate of return should include an element for the amortization of accrued depreciation, or else this accrued depreciation should be set up separately. Every effort should be made to hold the recognized capital value down to the actual cost of the property less the subsequently accrued de-

preciation. If this is to be done, the permanent depreciation will have to be provided for in some way, either through a depreciation reserve that belongs to the property, whether invested in additions and extensions or not, or through the repayment of a part of the investment and a corresponding reduction in capital value. It is better to keep the rate of return entirely distinct from the allowance for a return of the investment or a portion of it to the investors.

It is also essential that an electric railway should accumulate an indivisible surplus to serve as a sort of equalizer. This may take the form of a contingent reserve fund which is permitted to pile up until it reaches a fixed sum, after which the accumulation ceases. If the rate of return is fixed to cover the surplus, then the regulatory authority should take the necessary steps to protect the surplus against misappropriation. If this provision for a surplus is included in the allowed rate of return, then the average return actually paid out to the stockholders and bondholders will not be equal to the allowed rate of return upon the investment as a whole. The discussion in this section has been directed mainly to the rate of return that actually becomes available for the security holders.

It is almost universally recognized that a service-at-cost plan, whether based upon continuous public regulation or upon semi-automatic contracts, strikes a blow at the initiative which is supposed to characterize private management where profits are neither definitely limited nor definitely assured. This point was brought out by Mr. Gaylord C. Cummin in his testimony advocating a sliding scale arrangement. At pages 32 and 33 of the Proceedings, he says:

"In the cities where a change of fare promises relief, it seems to me, from what I have seen on both sides, that no form of agreement which has been made at present is satisfactory. Perhaps the nearest approach to it is the service-at-cost plan. That, I think, has in it a fundamental weakness, which was touched upon briefly this morning, but was not brought out, and that is, I do not believe that by making a fixed return, which a utility cannot exceed, you can keep that utility up to efficient operation or that you can keep its executives and managers interested in cutting its costs and cutting corners and keeping things as low as possible. That simply is not human nature. You have got to give some incentive to do the thing you want to do, if you want to do it for any length of time.

"Commissioner Beall: Suppose the maximum is not fixed, how then? Suppose there is no maximum there fixed, but that the rates as in Montreal, rise to whatever height is necessary to produce a given revenue on a given investment. Are you referring to a case of that kind?

"Mr. Cummin: If you give the utility a fixed return only, that is, if it is allowed, say, seven per cent on its invested capital, or six per cent on its invested capital, when it once gets up to six per cent, it is not going to exert itself to cut its costs, because it does not make any difference, then, what the earnings are, it can only get its six per cent, or its seven per cent as the case may be. You are taking the incentive away from the utility. That it actually has that effect I have seen in other cases not connected with street railroads, but one case I think of, particularly, where an electric power plant in a small town had an opportunity to buy current from a big central station plant at quite advantageous terms, and they were earning, at that time, the maximum allowed by that State Public Service Commission, the maximum percentage; and when they signed up the contract with the Central Station Plant, a rate controversy was inaugurated by some citizens and taken up by the Public Service Commission, and they lost all the advantage they had gotten by signing the contract, and came back to whatever it was—7½ per cent, I think—that they were allowed.

"The man that owned that utility and a group of utilities besides, told me shortly afterwards that that had cured him of ever trying to save anybody any money; and you can see how that would happen.

"I have heard one other manager of another group of utilities that have specialized on efficient operation and that are in states where they are governed by commissions, and where they have a fixed rate of return, and I have heard him explain, on several occasions, that he could not see any reason why they should continue exerting themselves to hold the grade of efficiency which they had prided themselves on, because they absolutely got nothing out of it."

To meet this weakness, some service-at-cost plans provide for a sliding scale in the rate of return, dependent upon fluctuations in the fares charged, the return being highest when fares are lowest. This is characteristic of the Dallas plan. The Cincinnati plan also embodies the sliding scale principle in connection with the distribution of the surplus. The Montreal plan, as well as some plans that are not based on the service-at-cost principle, such as the Chicago settlement ordinances of 1907, the New York subway contracts of 1913 and the Kansas City settlement franchise of 1914, provide for a share in the surplus profits in addition to the fixed or basic rate of return upon the investment. The Montreal plan, and the New York Electric Railways Association plan as embodied in the 1920 Jenks bill, provide for an operating bonus to encourage the company to keep down expenditures.

It is obvious that however necessary it may be to adopt some artificial scheme for revivifying motive under a service-at-cost plan, the bonus reward, or other stimulus does not properly attach to capital, but to the management. Capital is inert and cannot respond to such stimuli. All it wants is its security, its return, and peace. The bonus for good management ought to be included in operating expense, and surely has no logical relation to the rate of return upon the investment, except as some rate may be used as a measure of reward corresponding to the magnitude of the enterprise. The idea that an extra fraction of a per cent on the capital invested is a proper form for an operating bonus to take, undoubtedly arises from the fact that theoretically the stockholders are responsible for and control the management. In actual practice the reverse is quite likely to be true. At any rate, the bonus is not a reward that attaches to capital as such. It is designed to stimulate efficiency, and to accomplish that purpose it must reach the management.

There is no good reason for the adoption of a sliding scale arrangement in the electric railway business by which the cost of capital will be made to slide up as the cost of labor slides down, and *vice versa*. Cheap capital never interferes with good service. Expensive capital always increases the cost of service, whether the latter is good or bad. Cheap management, on the other hand, may seriously impair the efficiency of service. Therefore, cheap capital is always a desideratum, while cheap management and operation are a desideratum only to the extent that they do not impair the efficiency, safety, adequacy and continuity of service. The problem of motive in electric railway management is too complex and too elusive to be solved by any automatic device affecting the rate of return upon capital. The human element of constant watchfulness and responsibility to public opinion cannot be eliminated without seriously endangering the public welfare.

It is not at all necessary that the rate of return should be applied uniformly to the entire investment. For example, in Cleveland the rate on the stock is fixed at a certain amount, and the rate on the bonds is to be whatever the money costs within a prescribed maximum. The recommendation of the arbitration board in the 7 per cent proceeding is a clumsy and very expensive way of meeting a temporary increase in the "cost of money" for needed extensions. To perpetuate an additional burden of annual cost applicable to the entire capital when

the necessary result could be obtained by the sale of securities below par for the time being with provision for the amortization of the discount seems to be very poor finance; almost as bad, in fact, as consenting to a higher rate of return to cover risk, instead of removing the risk. The Cincinnati plan is similar to the Cleveland plan so far as bonds are concerned, except that no arbitrary limit is set up within which the interest rate on bonds is to be kept. It seems clear to me that the rate of return should be fixed by contract when the investment is made, and that flexibility in the rate should apply to new capital. Of course, in the case of bonds and notes the rate may have to be readjusted whenever they are refunded, and so far as capital stock is concerned provision might be made for a reconsideration of the rate of return at stated intervals, and possibly for arbitration if the two parties fail to agree on the rate for the ensuing period.

Capital is attracted by security. It is surely important that the effective rate of return should be kept down, and that capital should not be paid more than it asks for when risk is reduced to a minimum.

The valuation and the rate of return must be considered together. It is fundamental that both should be kept as low as possible, without injustice to investors or impairment of function, in order that the cost of local transportation may be kept at a minimum.

CHAPTER XL

UNRESTRICTED STATE REGULATION

Prior to 1907 the public regulation of electric railways was almost exclusively a matter of franchise contracts, local ordinances and the general state laws under which the companies were incorporated. Massachusetts had a railroad commission with certain powers of publicity and recommendation, but nowhere in the country was there such a thing as a state public service commission with the general powers of regulation and control which have characterized the commissions established in recent years. The real beginning of comprehensive regulation came in 1907, when the powers of the Wisconsin Railroad Commission were extended by the enactment of the Public Utilities Law of that year and when the Public Service Commissions Law of New York was enacted and the two New York commissions established. After 1907 the development of public utility regulation was rapid and widespread, until at the present time almost all of the states, the District of Columbia, and even our insular possessions have commissions whose jurisdiction is based largely upon the pioneer legislation of Wisconsin and New York. It is seldom that a new idea in state administration has spread so rapidly and taken such deep root in so short a time. Yet, the present condition of the electric railways, as shown by the testimony before the commission, is in itself *prima facie* evidence that commission regulation, as applied to the electric railways, has failed.

The establishment of state commissions was at first bitterly opposed by the public utilities, because they were unwilling to be subjected to the intimate public control contemplated by the proposed regulatory laws. Later, after the commission movement got well under way, the public service corporations took a new tack and from that time on have generally favored the establishment of state commissions and the extension of their powers, especially where the jurisdiction given to them has been such as to exclude the municipalities from the exercise of local control over the utilities.

The development of commission jurisdiction over the rates of electric railways has been more recent than any other feature of commission regulation, due to the fact that almost universally the unit fare on street railways was fixed by franchise contract, by statute or by custom at 5 cents. However, during the past 10 years the power of the state commissions to fix street railway fares, without reference to the provisions of franchise contracts, has been rapidly gaining recognition, until at the present time a limitation of the jurisdiction of a state commission in this respect is the exception rather than the rule. In spite of past failures some of the witnesses before the Commission suggested the possibility of finding a remedy for the present plight of the electric railway industry in the

establishment of unrestricted commission regulation, and in fact the record is full of discussion as to the relative merits of state and local regulation, and particularly as to the merits of unrestricted state regulation as an alternative to a semi-automatic service-at-cost plan based upon contract.

We cannot properly appraise the value of this proposed remedy for the existing difficulties without analyzing the results of past experience. Three questions present themselves:

(1) To what extent has the failure of state commission regulation been real, not imaginary?

(2) To what extent has any failure of state commission regulation been due to its incompleteness?

(3) To what extent has any failure of state commission regulation been due to inherent difficulties in its administration?

In Massachusetts, full-fledged state regulation of the electric railways came in with the establishment of the Public Service Commission in 1913, but back of that the Board of Railroad Commissioners, with limited jurisdiction over street railways, had been in existence for upwards of forty years. It is perfectly obvious that legislative and commission regulation, whether running tandem or abreast, although at no time seriously embarrassed by restrictions of local franchise contracts, failed to keep the electric railways of Massachusetts in such a condition, either physically or financially, as to give the investors full protection or to assure the public of the continuance of adequate service at attractive rates. The Public Service Commission of Massachusetts itself recognizes this failure, and has officially pointed to public ownership as probably the only policy by which the credit of the electric railways of Massachusetts can be restored. In fact, regulation by the commission has already been superseded, with respect to the Boston Elevated Railway and the Bay State Lines, together comprising about 45 per cent of the total electric railway mileage of the state, by public operation through boards of trustees appointed by the chief executive. Ex-Governor Eugene N. Foss refers in his testimony to the disasters that have befallen the owners of railroad and street railway stocks in Massachusetts, in spite of the protection which they were supposed to be receiving under the laws of the state. At pages 792 and 793 of the Proceedings, he says:

"Again, we tried in Massachusetts everything. We were the first state in the union to have a public service commission, or a railroad commission, right there in Massachusetts. And our railroad stocks there, you know, for years have been sold by the companies at a price fixed by the Railroad Commission, and our investors have bought those securities. Widows and orphans and trustees have put their money into these railroad securities and quasi-public corporation securities in Massachusetts because they thought they were the next thing to government bonds, because they considered that nothing could happen to them, since the state fixed the price at which the stock should be put out and also fixed the tariffs on the railroads. But we saw New York, New Haven & Hartford stock go from 250 to 25, while the Commission could say the New Haven stock should not be put out at less than \$200 a share, which it was worth, and Boston Elevated, selling at 155, some of it, and really \$135 today represents every dollar put in the property, still this stock sold down to 27 or 28. Thousands of people were ruined. I know of women in Massachusetts who are working today who had a small competence put away in these stocks which has all been wiped out.

"Now this thing has got to stop. The state is morally responsible for that condition today and ought to be responsible in equity and the people are going to see to it that they are. These quasi-public corporation stocks have got to cease being speculative footballs. That is my judgment about it."

Governor Foss, himself an advocate of public ownership, readily assented to the suggestion by Commissioner Sweet that wages and the cost of materials

entering into street railway service have greatly advanced, and that the situation of the electric railways today, without an increase in their income, is "one which any intelligent man would expect it to be," and that "it could not be otherwise." However, Governor Foss went on to say that in his opinion the street railways have brought their troubles upon themselves by alienating public opinion to such an extent as to make it politically difficult for state commissions to grant rate increases. His testimony on this point is found at pages 797 and 798 of the Proceedings, as follows:

"You see, these public service commissions in the states and in the nation have not got courage enough to advance these fares. They are honest men, I appointed some of them—"

"Commissioner Sweet: Are they not prevented by law in many cases?"

"Mr. Foss: They may be to some extent but they are not in Massachusetts. I appointed the Railroad Commission in Massachusetts, most of them who are serving today; five splendid men, who have not courage enough to do it. Why haven't they courage enough to do it? Because the railroads have grafted and they have stolen and have wrecked their properties and have lost the confidence of the public to that extent that there is no railroad commission that can stand up for a single moment against the public and do what they ought to do and what they know they ought to do. You talk with any one of these public service commissioners in that state or in the nation and they will tell you these fares ought to be doubled; if these roads go back to private ownership the rates have to go up, not 25 per cent, but 50 per cent.

"Commissioner Sweet: Are you not aware in most states the right to raise fares is under the control of the state commissions?"

"Mr. Foss: Certainly.

"Commissioner Sweet: Are they not under governmental orders?"

"Mr. Foss: Certainly.

"Commissioner Sweet: Are they not under governmental officials?"

"Mr. Foss: Yes.

"Commissioner Sweet: Just the same as they would be if the whole thing was under the control and operation of the Government?"

"Mr. Foss: Yes.

"Commissioner Sweet: Are not the companies as a rule anxious to raise fares and are they not in many cases obstructed by these public service commissions?"

"Mr. Foss: I think the public service commissions are ready if they felt that public sentiment was behind them, but the public will not stand for it, because they feel that they do not know the whole truth, they have not been treated right. That is the condition in Massachusetts. I have talked with the public service commissioners and they openly say so.

"Commissioner Sweet: Is not this condition of not having been treated right rather a tradition from years ago rather than a condition that exists at the present time?"

"Mr. Foss: Well, I think that is true. I think the condition in the country today is better than it ever has been as to integrity and honesty."

However, it was in Wisconsin, not in Massachusetts, that regulation of street railway rates by a state commission first became effective, and without doubt the work of the Wisconsin Railroad Commission in the years following 1907 had more to do with the conversion of the public service companies throughout the country to the theory of state regulation than any other one thing. Certainly, if unrestricted commission regulation has had a fair trial in any state over a considerable period of years, that state is Wisconsin. For this reason the testimony offered by Mr. James D. Mortimer, on behalf of the Milwaukee Electric Railway & Light Company and affiliated concerns, has unusual interest and significance. At pages 765 to 773 of the Proceedings, he describes in considerable detail the course of regulation in Wisconsin as it has affected the Milwaukee street railways. He tells the story of the attempt of the Milwaukee company to secure rate increases during the war period, particularly on two occasions when the conductors and motormen demanded higher wages. The theory of regulation was put to the test in Wisconsin, for the power of the state commission

either to increase or decrease fares without respect to the limitations imposed by local franchise contracts had been fully established by the courts. The issue had been carried even to the United States Supreme Court and decided in favor of the commission. The Milwaukee Street Railway property had been valued by the commission and rates fixed as early as 1912. With the value of the company's property already established and with complete facilities at all times for the ascertainment of the facts relating to the company's expense and profits, the commission was in a better position, perhaps, than any other public service commission in the United States to act promptly and intelligently in adjusting the income of the Milwaukee street railways to the increasing cost of the service. Mr. Mortimer points out that an application was filed by the company in November, 1915, asking for higher fares. Late in 1916, while this application was pending, the company filed a new petition with the railroad commission, asking for emergency relief on account of the necessity of making large increases in wages in order to attract the labor necessary to operate the railway system, and also in order to enable it to make an eight-hour day effective throughout the railway department. This petition was denied on the ground that the emergency was not such as to justify the granting of relief under the statute. The revaluation under the company's application of November, 1915, was finally completed in August, 1917, but still no decision was forthcoming. The resulting situation is described by Mr. Mortimer at page 768 of the Proceedings, as follows:

"The cost of living began to very rapidly increase, and it became necessary for the company to consider making substantial increases in wages; first, to keep the men on the cars; and, second, to keep the service going, that is, to keep a sufficient number of trainmen to operate the cars.

"The matter finally came to a head in a demand made in the latter part of April, 1918, by the employes for an increase of 15 cents an hour and for an 8-hour day. The company told the men that they had no dispute with them on the matter of wages, but since wages were so intimately related to fares that the proper place to make the application was at the office of the Railroad Commission in Madison. The committee went there and received very attentive treatment, and were assured that by the first of May there would be an order granting an increase in fares.

"Based upon the assurance given by all three members of the Railroad Commission to the committee, I entered into a contract whereby the wages of the men were increased 10 cents per hour, or approximately \$1 per day. A strike had been threatened. The cessation of service had been threatened, and this assured the continuity of service for the time being. The Railroad Commission of Wisconsin told a committee that an order would be forthcoming from the 15th of May, and not later than the 19th. The 15th came by, and there was no order, and the 19th came by and there was no order, and the employes naturally wanted to know when the case was going to be determined. I found it necessary to tell the committee that if there was no order forthcoming by the time the payroll for the last half of the month of May, 1918, was made up, we would be unable to pay the increase in wages for the last half of the month of May, because the increase had been predicated upon the granting of relief by the Railroad Commission."

The employes communicated with the commission and an order directing the company to discontinue the sale of tickets and to substitute therefor a straight 5-cent fare was finally handed down on June 1, 1918. But the company found that the results of this increase in rates "were not sufficient to compensate for the increase in expenses and produce a reasonable return upon any measure of utility capital." and so, in August, 1918, it filed an application for a further increase in fares. The commission appeared to be quite displeased that a new application from the company should have followed so closely upon the heels of the order of June 1; and the time set for a hearing was not until the latter

part of October. Meanwhile, the employes had become restive again because their wage scale, notwithstanding the increase given in the preceding May, was lower than the scale fixed by the National War Labor Board in its awards in other cities. What the company then did and what the employes did is explained by Mr. Mortimer at pages 769 and 770 of the Proceedings:

"When the employes asked for further adjustments in order to bring their scales into line with what they called the Government wage, we told the employes that it was a question of revenues, and that it was up to them to get an increase in revenues, and that we would cooperate to whatever extent we could, and that we had already had this petition filed.

"The employes employed an accountant to make an examination of our books of account to ascertain whether or not we were telling them the facts, and the accountants reported to them that the facts were substantially in accordance with what the company had stated. Based upon this examination, the employes again presented themselves at the Railroad Commission. * * * * *

"Then, the situation began to become more active. The company indicated its helplessness. It showed that the earnings on the railway property were only three per cent per annum on the appraised value of the physical property, stripped of all considerations of stocks and bonds and bond discounts, and with only very modest allowances for overhead, engineering overhead.

"The employes made a number of trips to the Railroad Commission, and they finally went to the Governor of the State. It thus became more or less of a political issue. Then the employes finally decided that they would have to cease service on the first of January, 1919, after serving notice on the public, * * * * * and service was ceased for one day.

"The service was resumed on the night of January 1st, upon the agreement of the company to pay to the employes an increase in wages of approximately four and a half cents an hour, predicated upon the organization using its influence to get out of the Railroad Commission a prompt decision upon the company's application of August, 1918."

The fact that the company and the men appeared to be on friendly terms caused the city attorney of Milwaukee to claim that a conspiracy existed between them. As a result, the railroad commission started an investigation, and later a special legislative committee was appointed to look into the matter. Mr. Mortimer read into the record a portion of the findings of the committee, showing the nature of the deadlock between the company and the commission. At pages 770 and 771 of the Proceedings, we find the following taken from the committee's report:

"The Railroad Commission in the negotiations with the men always took the position that the company should first raise the wages of the men and that the Commission would consider such raise as an operating expense in its decision. It was on this basis that the raise of May 1st was granted, but it was claimed on the part of the company that the Railroad Commission did not at that time give sufficient consideration to the increase in wage cost. The company, therefore, took the position that no further raise should be made until the commission first acted on the proposed increased wage and provided revenues therefor. There is a sharp difference of opinion between the company and the Railroad Commission as to the power and duties of the Railroad Commission with reference to wages. The company contends that the commission has the power and duty to pass on the question of wages as a factor in the administration of the Railroad Commission Law, and that where the increased wage is determined upon by the commission it is its duty, as a condition precedent to the payment thereof, to furnish the revenues lawfully required for that purpose. The commission contends that it has no power and no duties in regard to wages, except to consider them when paid as an operating expense. It is the opinion of the committee that the Railroad Commission takes too narrow construction of the law and that it has the power to consider wages the same as it has the power to consider any other factor in ordering service, and if this power is not sufficiently specific in the statutes as now provided the commission should be given that power. In other words, the commission should have full and comprehensive administrative jurisdiction to keep the wheels going and prevent cessation of service.

"The company expressed its dissatisfaction with the delay of the commission in its decision on the case pending from November, 1915, to June, 1918, and seemed determined not again to take any chances on a delay of that character by advancing wages and waiting for a subsequent recognition of the outlay. It is not only sought to bring pressure on the

commission to decide the pending application of August, 1918, by encouraging the men to bring pressure upon the commission to act, but it sought to influence public sentiment against the commission and in its favor by various means. This was partly done through publications which it issued from the Public Service Building and had distributed to the patrons of the road by its employes, and it was done by paid advertisements in the public press."

Extracts from an advertisement published by the company in a Milwaukee newspaper in December, 1918, are given at pages 771 and 772 of the Proceedings:

"The Electric Company has no dispute with its employes over wages, hours or working conditions. Our relations have been and are most friendly. The company deeply appreciates, and we believe the community does, the fact that Milwaukee Street Railway employes have shown a high degree of loyalty and forbearance in keeping the cars moving during the war year notwithstanding the wage was less than that established by the National War Labor Board for cities of Milwaukee's class. * * * *

"The Railroad Commission well know and our men through their own accountants' investigation learned that the street railway systems of these companies entered the year 1918 earning much less than the reasonable return assured them by state law. * * * * It is in view of the foregoing facts that our men demanded of the Railroad Commission car revenue increases which as they know are the only means of giving them adequate wages. They share the company's belief that the people of Milwaukee are able and willing to pay the fair going price for the services they render and that the commission will fearlessly execute the plain intent of the state utility regulation.

* * * * *

"Punishing Milwaukee. * * * * Wisconsin Railroad Commission's refusal to maintain the State's good faith by executing the plain intent of the utility regulation law robs street railway employes and investors and injures the whole community.

"Milwaukee and surrounding cities are threatened with a strike stopping street railway and electric service on January 1st, because the Railroad Commission for over two years has failed and refused to allow the Milwaukee Electric Railway and Light Company and the Milwaukee Light, Heat and Traction Company earnings enough to pay living wages. * * * * It is because our men through their own accountants' investigation know the above facts that they address their demands for higher wages primarily to the Railroad Commission rather than to the companies.

"As a direct and unavoidable result of this gross violation of the State's good faith, the employes of these utilities have been underpaid; the owners will be robbed of a large share of return on the investment which they should have received for the year 1918; the companies are being compelled to pay a higher price for new capital urgently needed to finance plant growth, and service betterments desired by the public could not be provided.

* * * * *

"These companies and their employes do not for a minute doubt the good faith of the people of Wisconsin nor of the State of Wisconsin. We feel sure that when the facts are known public opinion will compel action by the Governor and the Railroad Commission to maintain the State's good faith and do justice to this community and to the employes of and investors in Milwaukee's electric service.

"For more than two years last past these companies have been quietly pleading with the Railroad Commission to do its plain duty under the state law. The commission, in possession of all the facts, has failed and refused to do its duty.

"As a result our employes are now prepared to tie up the system unless the companies give them wage increases which they need and should get, but which cannot be given them without robbing our creditors.

"There is just one way out. That is for the Railroad Commission to fix fares that will let the companies pay the wages demanded and pay their investors a fair yearly return which the State assured them when it assumed control of their rates, services, finances and accounting."

The committee's conclusion, awarding blame both to the company and to the Railroad Commission, is found at page 772 of the Proceedings:

"The committee finds that the cessation of service on the street car lines in the City of Milwaukee on the first day of January, 1919, was the result of the company's failure to meet the just wage demands of the trainmen on the one hand, and the failure of the Railroad Commission to expeditiously function on the other hand.

"The commission is subject to reasonable criticism through the press or otherwise, but in no case should it be coerced into a decision by a party litigant."

Mr. Mortimer points out that under the Wisconsin law a company can obtain a rate increase only by filing a petition with the commission, and securing an affirmative order authorizing the new rate. The companies are absolutely dependent, therefore, upon the commission's diligence and good faith in deciding issues promptly. At the close of such a story, it was a crucial question that Mr. Warren put to Mr. Mortimer. At page 773 of the Proceedings, we find the following:

"Mr. Warren: Are you a believer or not in the theory of commission regulation, state regulation through commissions?"

"Mr. Mortimer: I am a believer in the theory of regulation by commission, and believe it is the most satisfactory way of taking care of the many complicated relationships that exist between the public utility and the community served, the state, and the employees."

"Though he slay me, yet will I trust in him; but I will maintain mine own ways before him," as Job says. Commissioner Sweet elicited from Mr. Mortimer certain constructive criticisms of state regulation as practiced in Wisconsin. These appear at pages 773 and 774 of the Proceedings:

"Commissioner Sweet: But you think there should be coupled with it a requirement for prompt action?"

"Mr. Mortimer: Yes; I would even go further than that and suggest that the laws be materially changed, so that there should be no shifting bases for commission regulation. That is one of the hazards of commission regulation.

"Commissioner Sweet: What do you mean by 'shifting bases'?"

"Mr. Mortimer: A commission may shift its basis on three principal things: first, the item of valuation. One commission may have one viewpoint as to what elements of value are to be considered, and another commission, a subsequent commission, appointed under the same law, may have an entirely different opinion. It is important that that hazard of shifting valuation be eliminated; first, so that the utility may know where it stands with respect to earning; and, second, so that the investors may be assured when capital is put into the property, when the property is sold or subsequently regulated for rate-making purposes, it will be considered at the par value of its original investment.

* * * * *

"Then, the second element is the amount to be allowed to insure future replacements.

"The commission that had the job in August, 1912, when it ordered a discontinuance of twenty-five tickets for a dollar and thirteen tickets for 50 cents, used a depreciation allowance of 4.46 per cent.

"The commission, in June, 1918, with a different personnel, used an allowance of 2.82 per cent, a difference of 1½ per cent. One and a half per cent on the valuation of twenty million dollars runs into a substantial sum each year."

The third point raised by Mr. Mortimer relates to some definite determination with respect to permanency in the rate of return, which has already been discussed in the preceding section of this report.

Again, at page 780 of the Proceedings, Mr. Mortimer says:

"Now, regulation by the Wisconsin Commission is presumed to embrace the theory of cost of service. The rates of fare are intended to produce sufficient revenues which will provide all current ordinary operating expenses, taxes, and an allowance to insure the future replacement of physical property, and a reasonable return, and in our railway utility, the commission has held that a 7.5 per cent return is a reasonable return, and that has been adjudicated by the Supreme Court of the State as fair and proper. At no time during the last two years have we earned any such return."

A little further on follows the statement already quoted in our discussion of the rate of return: "Now, our experience with the investment of capital in a railway business is such that I would feel no justification in recommending to investors that they put any additional money into the railway business in Wisconsin." This, certainly, does not speak well for state regulation, although

Mr. Mortimer's lugubrious outlook for the electric railways is only partly due to the sins of the state commissions. In discussing the relation of state regulation to the cost of service, at page 780 of the Proceedings, he says:

"Commission regulation, as I said before, contemplates cost of service, but it does not work out that way in practice, because, first, of the shifting bases of subsequent commissions, and, second, because of the long period of time required by the commission to act upon applications of utilities for readjustments in rates. There may even be a valuation required, or a revaluation, or accountants may have to have an examination. There can be any number of things developed as reasons for delay if the commission desires to cause delay."

Further on, at page 781 of the Proceedings, he offers certain suggestions calculated to overcome some of the defects of state regulation, but still he is unable to become optimistic about the future:

"A proper state utility law would provide something to this effect:

"That all utilities shall be valued, and the utility capital shall be determined by the commission; that before there are any capital expenditures made the utility shall apply to the commission for authorization to make the expenditures, and the commission shall, at the same time, fix the return to be allowed upon the capital expenditure. If the commission fixes too low a return, the company can say, 'You get the money, Mr. Commission.' If the commission fixes too high a return, that fact can be corrected in the next application of the utility. Authorizations of capital expenditures shall be cumulative. Authorizations of annual return shall likewise be cumulative, and neither shall be changed, except, in the first case, when property is removed, taken out of service, and abandoned, and then it shall be taken out of capital account, and the amount of annual return that is fixed in this manner shall not be changed, except in the event of refinancing, which may cause some subsequent change in the cost of money.

"Some such arrangement as that would be fair to both parties. There is only one defect in it, and that is the defect of all cost-of-service franchises, and that is you may not be able to collect sufficient revenues to pay the annual return. Operating expenses are rising so rapidly; the demands of labor in all lines of industry are increasing so fast, that the electric railway business is fast going into the position of the British coal mines, and it is not at all sure that we are going to be able to collect sufficient revenues out of the railway business to keep it going. We already have situations, as I will instance, where I am unable to see, with substantial improvements to the railway system and the addition of a large amount of rolling stock for the size of the community, that we could, under any system of fares which we can devise, collect sufficient revenues to pay the operating expenses and pay a reasonable return upon the utility capital."

Later he comes back to his pessimistic outlook and mentions overregulation as one of the causes of the unhappy situation into which the electric railways have fallen. Obviously, there is nothing in the following statement, found at pages 808 and 809 of the Proceedings, to indicate that unrestricted state regulation is the solution of the problem:

"The electric railway industry for a great many years past has been gradually losing its commercial aspects. It has become an industry that is regulated in the extreme by the governmental authorities, and it, of course, has been one where the net earnings have been declining.

"It appears that the railway industry has not been increasing its volume of business as rapidly as has been the general business in community life of the territory served. The causes for that are comparatively well known. They have found themselves unable to attract additional capital to expand facilities, to keep the railway utilities in line with the growth of business and expansion of territory, partly because of the imposition of unremunerative expenditures, both for capital and for operating expenses, and partly because the business has been regarded as an exceedingly hazardous one. Expenses have risen so rapidly in the last two years that it is not at all clear that there is any uniform solution for the problem. In fact, as I indicated in my earlier testimony, there are a great many of the smaller communities served by track mileages running up ten or fifteen, or possibly as high as twenty, and in places with population as high as 50,000, where it is doubtful at present wage levels and commodity prices, that the business can be made remunerative at all."

The Proceedings do not disclose what the Wisconsin public thinks of state regulation, but it was only a few years ago that in the neighboring state of Minne-

sota the Home Rule League published a vitriolic pamphlet reviewing the work of the Wisconsin Commission from the public point of view and elaborating the many reasons why municipal regulation in Minnesota was to be preferred to regulation by a public service commission. This brochure was answered by the Wisconsin Commission or some of its friends, but the home rule sentiment in Minnesota cities has thus far prevented the enactment of a state public utilities commission law.¹ In Illinois, another neighboring state, a utilities commission was established a few years ago, and the famous Chicago settlement ordinances, which, in 1907, when they were adopted, registered the high water mark of street railway regulation in this country, have been superseded in some of their most vital aspects, and a chronic state of political and administrative warfare between the City of Chicago and the State of Illinois with respect to the control of public utilities has supervened.² Unrestricted state regulation was a part of "the Wisconsin idea" about which we used to hear so much a few years ago, but now apparently it would have to go begging for unqualified friends either in the camp of the public utilities or in the camp of the municipalities.

Let us now turn to the State of New York, where Governor Hughes won a great part of his prestige by being a pioneer in the enactment of a public service commission law. The electric railway companies of New York are undoubtedly very strongly in favor of state regulation as opposed to local regulation. And yet Mr. James L. Quackenbush, general counsel for the Interborough Rapid Transit Company and the New York Railways Company or its predecessor ever since before the establishment of the Hughes commissions, takes a very discouraging view of public service commission regulation, particular in New York City, from the companies' point of view. Testifying on July 24, 1919, twelve years after the first district (New York City) commission was established, he certainly made a sweeping indictment, from his point of view, of the commission's activities. I have already quoted from him in Chapter XVII of this report in connection with our discussion of the part played by public regulation in the impairment of electric railway credit. It will be remembered that he said, at page 817 of the Proceedings:

"The first time that anything has been done by the Public Service Commission in the first district * * * of the slightest benefit to the railroads was done last week by Commissioner Nixon."

Mr. Quackenbush referred to the order establishing a charge of two cents for transfers except at points where free transfers are required by contract. From the point of view of the electric railways, it might be said that state regulation in New York is unsatisfactory because of its incompleteness, inasmuch as the highest court of the state has held that the legislature has not conferred upon the public service commissions authority to set aside street railway rates of fare which are fixed by franchise contract, and has even left it open to question whether the legislature could constitutionally grant this power to the commissions.³ But Mr. Quackenbush's complaint against the first district commission is not based on the incompleteness of its authority. At page 817 of the Proceedings, he says:

"Fundamentally, I think the laws of New York are satisfactory. The trouble in New York has not been with the law but with its administration."

It seems that in New York the public service commissions are like the prophet who "is not without honor save in his own country"; for Mr. Quackenbush admits that the up-state commission, with which his companies have not been concerned, has administered the law more to his liking than the first district commission before which he has been appearing continually for twelve years past. Of his home commission, Mr. Quackenbush says at pages 819 and 820 of the Proceedings:

"Now, the New York City commission took office in July, 1907, when the surface lines were tottering towards bankruptcy, and became bankrupt in September. They were getting an inadequate fare there at that time. Through excessive use of free transfers, the average fare had been descending until, at the time of the insolvency in September, 1907, it was roughly 3.5 cents.

"The receivers of the New York City Railway Company, which then operated all the lines on Manhattan Island, found the leases of the Third Avenue and many of the others unprofitable, and returned them to their owners, under the instructions of the United States Court. That meant that the duty to exchange transfers ceased, because the law of New York did not require transfers from otherwise independent and competing lines.

"The Public Service Commission knew what the rate of fare was, but the public service commissioners made speeches in various portions of the city, announcing that they would restore the transfers, and during the years 1907, 1908, 1909, 1910 and 1911 we were engaged in efforts to persuade them not to do that."

After telling how the commissioners went to the legislature in 1912 and succeeded in getting a bill through both houses reestablishing free transfers between the independent lines, Mr. Quackenbush goes on at pages 820 to 822 of the Proceedings:

"They knew, of course, as I knew, that the order could not be sustained, because it was confiscatory, and instead of leaving it as a judicial question, it was sought to make it a legislative one. Former Governor John A. Dix vetoed that bill.

"Then, in the latter part of 1912, the independent companies and the commission arranged a modification of the transfer free across 59th Street, and they waived the others, and that is the situation down to the present time.

"Now, I mention that as proof of the correctness of my indictment. They knew better. They knew that they were not protecting the property or the service in doing that.

"Now, let us pass that and come to the last few years.

"It was apparent in 1917, early in 1917, as soon as we got into the war—it was apparent before we got into the war, that we were going onto a new price level. It was perfectly apparent that the 5-cent fare, with free transfers on the surface lines, would be inadequate to keep them going. I am not talking now about return. I am talking about keeping them going in the interest of the public, keeping the equipment up, so that it could render that safe and adequate service that the statute requires; and transfers having been the principal cause of the lowering of the average rate of fare, rather than to ask for a flat increase of fare in the first instance, the surface companies made application to the commission, in May, 1917, for the privilege of abandoning the transfers, as the commission might direct.

* * * * *

"Those proceedings were begun in May, 1917, and when Commissioner Nixon took office on the 8th day of May, 1919, he found them pending undecided.

"In the meantime, the New York Railways Company had gone into the hands of a receiver.

"The Second Avenue Railway Company in New York has never come out of the hands of a receiver since it started there in 1907, and now the receiver is unable to earn interest on the certificates issued by him under the orders of the court, and, rather facetiously, he is considering whether there won't be a receivership of the receiver.

"Now, that condition confronting that particular line of railway on Second Avenue alone condemns the action of the gentlemen that held those positions during those years.

* * * * *

"In 1917, when the transfer hearing was started, it was only necessary to show the difference between operating expenses and income to show that some emergency relief was needed. The facts were there, but they wanted a valuation, and the thing went along, examination upon examination of the accounts, and all the various things.

"Counsel for the commission was nominated for district attorney that fall, and among the reasons that he gave the people why he should be elected district attorney was that he

had prevented the abolition of the transfers, or any charge for the transfers. He did not get elected on that issue, but he ran on it.

"I am speaking of facts as they are, because I suppose that is what you want to know. These gentlemen are all friends of mine. I have gotten along with them pleasantly. I do not enjoy stating what I do, but the truth is the truth, and it was about time it should be told somewhere by somebody, and I propose to tell it as long as you want to listen to it.

"Now, I say that for the commission, for one day, to keep Judge Ransom in office after he made that a campaign issue—and it is in the public prints that he did it—they convicted themselves of an utter lack of appreciation of their duties under the law.

"That has been the trouble in New York."

In passing, it should perhaps be mentioned that Judge Ransom was subsequently so highly regarded by the public utility interests of New York that upon his resignation as counsel for the Public Service Commission he received retainers both from the Interborough Rapid Transit Company and from the Consolidated Gas Company, and it is not apparent why Mr. Quackenbush in July, 1919, should have seen fit to criticize his fellow-counsel!

The next thing, he takes up the subways, and condemns the Public Service Commission for its policies in the rapid transit field. After referring to the fact that the need of subway extensions had become apparent, Mr. Quackenbush, at page 823 of the Proceedings, says:

"The fundamental theory of the public service commission law in New York, and of course throughout the United States, is, as Governor Foss has said, monopoly, not competition, but regulation and monopoly. It was the commission's duty to regulate it. It had all the powers of regulation.

"Instead of undertaking to accept any one of the several offers that the Interborough Rapid Transit Company made to the city to build those natural extensions that I have mentioned, with their own money, the commission thought they had to have competition, they had to have public operation, and they proceeded with a plan of building an independent subway, and that was to have another 'Z,' coming down Lexington Avenue and crossing below 42nd Street, and then coming down the west side. They called that the Triborough Subway, and they spent several million dollars in actually constructing it. That had no justification in finance, economics, railroading, or common sense.

"It was not the fault of the law."

Mr. Quackenbush was quite vehement in his denunciation of the public authorities in New York City for not permitting an increase in the fare to eight cents. He showed that, without any new legislation, the fares could be raised at once by joint action of the Public Service Commissioner, the Transit Construction Commissioner and the Board of Estimate and Apportionment. We cannot go fully, in this analysis, into the details of the rapid transit situation as sketched out by Mr. Quackenbush in his testimony, but we ought, perhaps, to take particular note of what he said as to the moral obligation of the public officials of New York to sustain the credit of the Interborough Consolidated Corporation, the holding company for the Interborough Rapid Transit Company and the New York Railways Company. When the new subway contracts of 1913 were negotiated, the Interborough Rapid Transit Company came into the deal only upon condition that the city would give it a qualified guaranty of its past rate of subway profits in the form of a preferential payment out of the pooled receipts of the old and the new subways. This preferential, representing a charge upon gross earnings in advance of any return to the city on its capital invested in new subways, amounted to \$6,335,000 per annum. There was another preferential of \$1,590,000 based on the past profits from the operation of the Manhattan elevated lines. At page 832 of the Proceedings, Mr. Quackenbush outlines the

facts and states his view of the moral obligations assumed by the city with respect to the holding company's securities. He says:

"In 1906, the Interborough Rapid Transit Company, the operating company of the subway and the elevated, and the New York City Railway Company, the lessee of all the lines on Manhattan Island and the lines in the Bronx, formed a consolidation, not a merger, turned in their respective stocks in exchange for proportions of stock and bonds of the Interborough-Metropolitan Company, as it was then called, since by reorganization and now called the Interborough Consolidated Corporation, which, by the way, went into the hands of a receiver on the 21st day of March, 1919.

"Now, the Interborough Consolidated Corporation took the thirty-five millions of capital stock of the Interborough Rapid Transit Company and for that exchanged seventy millions of its 4½% bonds. That was equivalent to a 9% annual dividend upon the Interborough Rapid Transit Company's stock. At the time we made the contract with the city in 1913 the Interborough-Metropolitan Company was in existence, and through its ownership of this stock controlled through voting power the action of the operating company in making the contract. It was known by everybody at the time that the Interborough-Metropolitan Company had in addition to the \$70,000,000 of bonds \$45,000,000 of preferred stock. Now, the \$6,335,000, which has come to be called a preferential that we are entitled to take out of the subway earnings, represented our average net profits of the years 1910 and 1911. They were taken as a fair test and agreed to.

"I have not said anything so far about the Elevated features of the contract, because the city did not have any investment there. I wanted to impress upon you first the fact that the city's own investment is not being taken care of intelligently or faithfully by anybody.

"Now, we put many millions of dollars in the improvements of the Elevated lines and added and extended the lines and third tracked them and made an agreement with the city by which it shared in the profits above our average profits of 1910 and 1911, which in that case were \$1,590,000. Now, the sum of those two which have been called preferentials was known to everybody to be sufficient, with other non-operating income which we had, to pay a dividend on our preferred stock.

"Now, I say that when those facts were known and when it was known to the people with whom we were in daily conference for three years of time that the Interborough-Metropolitan Company permitted the Interborough Rapid Transit Company to make this contract, and they knew that that was done on the strength of these preferentials, and that those preferentials were sufficient to pay the interest on the 4½% bonds plus a return on the preferred stock, that it is wicked, immoral and unjust and nothing but simple repudiation morally for anybody who took part in that transaction or who succeeded those who did take part in it to starve us now into the destruction of the values of that preferred stock and of those bonds."

Mr. Quackenbush also maintains that the public authorities of New York were morally bound to sustain the securities of the New York Railways Company, issued at the time of the reorganization of the old Metropolitan Street Railway Company. He says that the physical valuations made by the Public Service Commission in 1910 indicated at least \$50,000,000 of tangible property, and that now with only \$48,000,000 underlying and general first mortgage bonds ahead of \$30,000,000 of income bonds, the surface lines went into the hands of a receiver on March 20, 1919. Commenting upon this condition of affairs, at page 834 of the Proceedings, he says:

"Now, there is something wrong when that situation arises and when under such conditions there is any talk about water. I never have mentioned the question of the securities, except as I have mentioned them here, on the theory that everybody knew they were out and made a bargain knowing that they were out, and when people make bargains under those conditions they or their successors ought to be ashamed of themselves to repudiate them."

Mr. Quackenbush recognized, to a certain extent, the apparent inconsistency of the position taken by electric railway companies which seek relief from the fulfilment of their rate contracts, but he outlined a bold policy for the relief of the embarrassment, and in doing so stated most emphatically his belief that the states should not hesitate to override the municipal authorities in such matters. At pages 837 to 838 of the Proceedings, he says:

"Now as to the other thing, and I think that I will mention this because at a meeting at which I was present among some of the gentlemen who are here in this room, one of the

members said that what troubled him in dealing with this whole matter was how to meet the constant statement that you are seeking to repudiate your contracts, and of course that view does prevail. And I think there this body may do a service if you will get the public to see that after all it is the public that is interested in the question of rate, it is their business, and that no matter if twenty years ago with conditions entirely different the local authorities of some little village or some big city and some well-intentioned but ill-advised corporation managers made contracts that no longer fit the case, that the interest of the people is the supreme law and that if the time comes that the interest of the people requires a modification of the rate and the carrier is ready on its part to modify them and the people, represented by their sovereign representatives in the legislature, for instance, or their delegated bodies are ready to do it, and the local authorities of the little town or the village or small city or medium sized city or the big city come up and say, 'We made a contract,' the answer is that the sovereign people, represented by the legislature or its delegated commission, will say to the local authorities, 'That contract was all right as between you and that carrier, that contract probably today will be recognized in the courts as a judicial matter, but now the principals are dealing face to face, and I, the people of the state, do not any longer need your services, Mr. Agent, city, town or village; now you just step aside and you forget your little petty and shortsighted vision of this question and I will make a bargain with the carrier that will be in the interest of the general public, whose interest after all is the only concern of anybody.'

Mr. Quackenbush referred to the fact that the salaries of the public commissioners under the original Hughes law of 1907 were \$15,000 apiece, or \$150,000 a year for the ten members of the two New York commissions.⁴ At the time, a judge of the Court of Appeals was paid only \$12,000 a year, but it was explained that "Governor Hughes would appoint to the commissions men of such standing and ability that their decisions would be accepted by the carriers, the utilities and by the public as final and it would be unnecessary to go into court to review them; he was going to get men of the highest grade." Mr. Quackenbush adds:

"I have no doubt the Governor intended to do so, and as I have said, so far as character, integrity and intelligence, he succeeded, but he did not succeed in getting men who held the scales even."

I have cited Mr. Quackenbush's statements at some length, not because his inferences against the good morals of the civic authorities are unchallenged, but to show that from his point of view public regulation in New York has been a failure, and that, also from his point of view, the Public Service Commission in the past and the city authorities in the present have been equally recreant to their moral obligations to the investors. Moreover, Mr. Warren stated that the American Electric Railway Association was on record as favoring state regulation; yet Mr. Mortimer and Mr. Quackenbush, two of the Association's leading witnesses, testified as I have shown.

The case for state regulation brightens up a little when we come to the testimony of Mr. James O. Carr, of Pittsburgh, who was a member of the up-state Public Service Commission of New York from 1915 to 1918. Prior to that, according to his own statement, Mr. Carr had been for about twenty years "very actively engaged in the operation, construction and reorganization of public utilities, street railroads, electric light and gas companies." In his testimony, Mr. Carr touched upon the fact that the New York commissions were restricted in their power to deal with rates which had been fixed by franchise contracts. At pages 846 and 847 of the Proceedings, he says:

"I believe that if public service corporations are to be regulated by regulating commissions, they should have full power to regulate them. I have in mind particularly the New York law under which we were operating, which gave the commission every power that a

regulating body could possibly have, so far as service was concerned. There was no limit, practically, to what could be required, but going along with that there was not the same power to provide the means for the corporation to get the money to make those improvements, if improvements were required, or to provide such other expenses as might be necessary to give the service that the public was entitled to and which it demanded.

"Mr. Warren: That, in your judgment, is just as essential—the possession of that power is just as essential as the power over service; that one without the other—"

"Mr. Carr: One without the other makes it absolutely incomplete.

"Mr. Warren: Yes.

"Mr. Carr: That law, as it now stands, gives every power to the commission to reduce fares, but it does not give them power to increase fares when increases are necessary and absolutely required in order to enable the corporation to perform its functions."

Asked whether the state commissions in the existing emergency would be justified in furnishing temporary relief, Mr. Carr said, at page 849 of the Proceedings:

"With respect to those commissions of which I have any knowledge, I have no doubt that every one of them would give relief today if a plain statement of facts was furnished them, if they thought it correct, without waiting for any great length of time to get a mass of evidence in front of them that they would have to pour over and spend their nights and Sundays in digesting. The purpose of every one of these commissions today is to aid the corporation that needs help, but where they are bound around with statutes and with constitutional provisions and other things that prevent them from giving that aid, they are absolutely helpless, no matter how much they may desire to help the corporation, and the best evidence of that is what has happened in New York."

Mr. Carr took issue with some things said by Governor Foss of Massachusetts with respect to the pernicious political activities of public service corporations in trying to influence appointments on the public service commissions. His own view of the trouble with respect to these appointments is set forth at pages 850 and 851 of the Proceedings, where he says:

"The trouble is that the appointing power, as a rule, where the commissions are appointed—in many of the states they are elected—but where they are appointed, I believe the public service corporations are more interested than anyone else to have clean, able, upright men on the commission, because it is to their best interests to have men of that character, yet in all cases the trouble with the appointing power is the politician. He is always there to see that a politician or someone who is selected by the politician is put on the commission, because it is considered a political plum.

"Now, that is the fact as distinguished from what the Governor said, and I think you will find that, if you keep the politician away from the appointing power, you will have no trouble in getting good men.

"But there is this further fact to be considered: it is difficult to get a competent man, unless he happens to be of independent means, to be willing to assume the burdens of public service commissioner because he does not like to be hounded and blackmailed, if you please—accused of everything in the calendar, and work himself night and day to do the best he can for his state, with the knowledge all the time that a change in the political power or the expiration of his term of office means that he goes forth without honor.

"And what is the result? His innermost pride is affected, because he feels that if he has done his duty well the least reward that he could have would be a reappointment to that office, and you will find that that is very seldom done. I did not have an opportunity to meet that experience, but I presume I might have had it, just the same as many other men have had it; and that is the reason why it should be eliminated from politics. If you have a competent man there, keep him on the job."

Mr. Carr does not believe that public ownership would be successful in this country under our present form of government, but he seems to have a good deal of faith in public regulation. On this point he speaks, at pages 855 and 856 of the Proceedings, as follows:

"Commissioner Mecker: How about public regulation under our present system? Is it possible to work that?"

"Mr. Carr: I think public regulation can work, and it has worked very well. Of course, it has its evils.

"Commissioner Meeker: We have heard some pretty severe bumps handed to it today.

"Mr. Carr: Of course, you have always to consider that some of the people that do the bumping also have their grievances.

"In 1907, when the New York commission was formed, I might say that a great many people with whom I was associated were opposed to it, but I was very much in favor of it, because I felt I saw what was coming, and I tried all I could to help make it a law in my feeble way, and I believe if you would put it to a vote of the public service companies in the state and ask them whether they would go back to the old days they would tell you that they would prefer to have the regulation exactly as they are having it today. Now, I may be wrong, but that is what they have told me.

"Commissioner Meeker: What is the difference between the politics that affects the public regulators today and the politics that would affect the public operators in case of public ownership and operation, or the public regulators under public ownership and private operation?

"Mr. Carr: Well, all I can speak for is the commission I was with. We, in the words of the President, adjourned politics. We eliminated politics entirely from our operations.

"The Chairman: Is it not true, Mr. Carr, that although some of the public service commissioners may be politicians, and they may be appointed for political purposes, yet when it comes to the question of appointing their expert men, their expert rate men, engineers and so forth, they always look for the best men in the field that can be secured?

"Mr. Carr: I think that is true.

"The Chairman: And is it not also true that these public commissioners very generally respect the recommendations and follow the recommendations of their expert forces in matters coming before them?

"Mr. Carr: I think it is."

The Railroad Commission of California, since it was reorganized in 1912, has had a very high reputation for intelligence, vigor and fairness in the application of the regulatory law. The only California witness that appeared in person before the Federal Electric Railways Commission was Mr. W. E. Creed, counsel in rate matters for the San Francisco-Oakland Terminal Railways Company, which operates as its Traction Division the local street railway lines in Oakland, Berkeley, Alameda and other East Bay cities, and also operates as its Key Division, in competition with the Southern Pacific Railroad, the trans-bay interurban railway and ferry service to San Francisco. Mr. Creed stated that his company was in very bad condition, but he blamed this condition for the most part upon matters outside of the control of the state commission. He cited excessive taxes, assessments and paving obligations, the failure of the municipalities more rigidly to enforce traffic regulations with regard to automobiles and thus cut down accidents, and the demand of the municipal authorities for "service beyond the revenue" on particular lines and their refusal to permit the abandonment of lines which have not been justified. With respect to the state commission, Mr. Creed says, at page 887 of the Proceedings:

"Well, our commission out there has acted with commendable courage with regard to the traction company and we finished the case which involved the question of an increased fare in July or about the 1st of July last year, and in August the commission granted the 6-cent fare, on the 14th of August. We have not yet gone to them on the 7-cent fare, but we have pending an application for an increase of fares on the Key Division, and that decision has not yet come down.

"Mr. Warren: How long has that been pending?

"Mr. Creed: Since July of last year.

"Commissioner Sweet: The commission you speak of is the state public utility commission?

"Mr. Creed: Yes, of state-wide jurisdiction.

"Mr. Warren: They have jurisdiction to do it?

"Mr. Creed: Yes. They have met the situation in California very well. Of course, there are a good many complications in connection with the increase in the trans-bay fare. The question is what the Southern Pacific, which is a competing service, will do, and whether the Railroad Administration will go to the same figure, and also the question of whether we would dare to operate at an increased fare."

Later on, Mr. Creed suggests that it would be desirable for the Federal Electric Railways Commission to make studies and findings with respect to "the future rate-fixing policies of state commissions regarding utilities in general or street railways." He expresses the opinion that it is desirable to "have compensation and the rate of fare as low as is consistent with maintaining the credit and service," but he thinks it "essential that a rate-fixing policy making adequate provision for depreciation and contingencies be adopted." With respect to state regulation in general, he expresses himself at page 889 of the Proceedings, as follows:

"I believe very strongly in state-wide regulation. I believe the great service that that has done has been to control the issuance of securities, and I think it was essential that that be done, but I think the tendency in state-wide regulation has been to require companies to give service substantially at cost. That is, when you take most of the rate cases which have been decided by commissions you find they build up the operating expenses, whatever allowance they make for depreciation, bond interest and the dividends to the stock which is used for financing and then there is a little margin or surplus over, but that margin has not been big enough to take care of fluctuations in conditions, and I feel there ought to be very careful thought and study given to the future policy with reference to reserves and depreciation reserves for public utilities and particularly street railways."

Further on, Mr. Creed testified that in his opinion the California commission has been a very efficient body and that he has a very high opinion of its work. He thinks that prior to the war the utilities of California enjoyed a very fair measure of prosperity. Their present trouble is chiefly an outgrowth of war conditions. He calls attention, however, to one limitation upon the powers of the California Railroad Commission and the state commissions generally, which, in his opinion, should be removed. This limitation is their lack of authority to compel the readjustment of old capitalization in connection with their approval of the issuance of new securities. His views on this point have already been cited in Chapter XVIII of this report in connection with our discussion of the effect of public regulation of stock and bond issues upon the credit of the electric railways.

Mr. Creed also states that in California fares cannot be raised in advance of an application to the state commission and a determination by it. He is of the opinion that it would be "in the interest of both the company and the public" to adopt the provisions of the Pennsylvania law, authorizing electric railway companies to put new rates into effect subject to subsequent modification by the public service commission upon investigation. It will be seen that on the whole, Mr. Creed's testimony was very favorable to the California Railroad Commission and to the general plan of regulation by state commissions. At the same time, it is not clear that the difficulties of the electric railways of California would be entirely overcome by the changes in the regulatory laws suggested by him.

It is noteworthy that Mr. Paul Shoup, President of the Pacific Electric Railway Company, which operates over 1000 miles of interurban track in Southern California, in his message of July 19, 1919, to the president of the American Electric Railway Association, which appears in full at pages 608 and 609 of the Proceedings, did not voice or even suggest any criticism of state regulation in California, although stating that the electric lines in that state were in a desperate situation. In fact, he says: "In some California cities 6-cent fares have been granted and in a number of other cities applications for that rate are pending.

Very considerable increases in freight and passenger rates have been granted interurban lines, but necessary relief has not followed." The remedial measures suggested by him do not include the abandonment of state regulation or any particular enlargement of the functions of the state commission; but rather the enactment of legislation relieving the electric railways from the burdens of special taxation, paving requirements and other franchise obligations; the adoption of operating economies and the shortening of the uniform fare zone, coupled with the substitution of a 7½-cent minimum fare for the nickel and the making of a new 7½-cent coin.⁵

Mr. Charles L. Henry described the system of fares on the interurban lines of Indiana. The regular rates were originally about 1½ cents per mile; then came the penny zone system, with a cent for every half mile; then in January, 1918, the rate was put up to 2½ cents per mile; and finally, in February, 1919, to 2¾ cents per mile. Mr. Warren asked whether there is a minimum fare. Mr. Henry's reply and his comment upon the Indiana Public Service Commission are found at page 701 of the Proceedings, as follows:

"Yes; the minimum fare used to be 5 cents and has been made 10 cents, so that there is no fare now less than 10 cents.

"The Chairman: By order of the commission or by statute?

"Mr. Henry: By order of the commission. The statute made no regulation of our fares. Our rates are—it has all been done by the commission, and in that I may say that the commission, since they got their faces turned towards the East and saw what was needed—it was a little difficult to get them to see what was needed, but as soon as we got their faces turned in the right direction and they did see what was needed, they have shown a disposition to cooperate with the interurbans.

"The Chairman: I think you have a good commission in Indiana.

"Mr. Henry: Well, I second the motion. We have. But here is one of the troubles about it. We were going in the hole for from six to nine months because of the losses in operating expenses before we got an increase, and when we got the additional increase it was the same way, it took three months to get them to issue the first permit for 2½ cents per mile. I presented the petition for our road first, and it took us three months to get action on it before we got them in the notion of really doing it. They first thought maybe the 2-cent fare law affected it, and we showed them it did not, it only affected steam roads, and after that they treated us, well, I will not say with liberality, but with all the justice the situation demanded and required."

Mr. Richard Schaddelee, Vice-President and General Manager of the United Light & Railways Company, which controls a number of street railway and other utility properties in the Middle West, told about his experience with the Illinois and Indiana public service commissions. He criticized both of them on the ground of delay in the granting of emergency relief to sick utilities. He also generalized about the failures of commission regulation. At page 859 of the Proceedings, he says:

"The failure of commissions and other rate regulation bodies to adequately protect utilities and grant them the relief necessary to enable them to maintain good and adequate service, as exemplified by the present condition and future prospects of the electric railways, is, in my opinion, due to the personnel of these commissions, their manner of appointment, and the influences they are subject to much more than the laws themselves."

Mr. Schaddelee's idea of the purposes for which state regulatory commissions were established, is set forth at pages 860 and 861 of the Proceedings, as follows:

"State commissions were established because the people were dissatisfied with the results of utility operation under franchise restrictions or under regulation by local municipal councils.

"The people did not enjoy the spectacle of these franchises or the regulating ordinances of their councils being made and dictated largely by local political and factional interests. The American people, especially the American workingmen, are intelligent and have a passionate desire for fairness, justice and fair play, and they can be depended upon to be on the side of right and justice once they thoroughly understand the merits of a controversy or proposition.

"They do not like to see a purely economic problem, affecting their personal and vital interests, degenerate into a political problem and become a political football.

"Whatever the intent or motives were of the legislature who enacted these laws, I am convinced that I have stated accurately the motives and intent of the large majority of the people.

"The people knew that the political manhandling of utility problems nearly always inflicted injustice upon either the public or upon the utility and often upon both."

While admitting that all commissions have done some good work and that there are "many able, conscientious, capable and fearless members on the commissions," Mr. Schaddelee is convinced that as a whole, the commissions have failed to live up to the expectations and the intent of the people. At page 862 of the Proceedings, he says:

"The main reason for the failure of the commissions to function effectively is the fact that they have not been immune from political influence as the people expected they would be."

This view is elaborated in the succeeding pages of the Proceedings. At page 862, Mr. Schaddelee says:

"These commissioners are but human. As a rule they like to retain their positions, and under the conditions cited they cannot be expected to make purely judicial decisions without fear or favor.

"If they are to function effectively, they must be absolutely removed from political influence, and they must be secure in their tenure of office as long as they execute their duties ably, justly and fearlessly.

"Under present conditions the commissions have no backbone, they have no courage, they are not free agents.

"They are much more influenced by what the local politicians and officials are saying than by what the people are thinking.

"They hear the vaporings of designing politicians, but they do not know what the people are thinking.

* * * * *

"The local politicians are usually wrong in their interpretation of the people's attitude on these matters, and the commissioners are unduly influenced by the local politicians.

"The commissions show by their actions and decisions that they are, consciously or unconsciously, dominated by the theory that their duties are much more largely toward the people than toward the company, and that the people established them mainly as rate-reducing bodies instead of rate-regulating bodies.

"Rate increases were practically unknown before the war and the habit of reducing rates like other habits is not easy to break."

The effect of regulation upon the utilities themselves, as Mr. Schaddelee observes it, is set forth at pages 862 and 863 of the Proceedings:

"These conditions have paralyzed all incentive to economy in the utility business, and no stable financial conditions can be created until they are remedied.

"The biggest handicap to a utility is to appear before a utility commission with a record and data showing effective operation and careful, economical management.

"You will receive verbal commendation, but a lower rate than another company not so well operated or managed.

"There is really now no incentive to economy, nor any incentive to spend efforts and money to stimulate expansion of the business.

"If you spend money in improved equipment to effect material economies in operation, and thus increase your rate of return over the 6% or 7% allowed you, the commission will eventually confiscate this excess and maybe more, and will also confiscate part of the capital you have invested to procure these economies, fixing a so-called depreciated value on the property representing this capital.

"In applications for increased fares or rates the commissions examine too much in the past and not enough in the future or present.

"They are willing to base their decisions on anticipated decreases in the cost of labor and material, but never on anticipated increases in the cost of these items."

That state regulation in Pennsylvania has been satisfactory, at least from the point of view of the electric railways, seems to be fully borne out by the testimony of company witnesses from that state. Mr. C. L. S. Tingley, Vice-President of the American Railways Company, which controls the electric railway systems centering in Scranton and Altoona, testified that his companies' experience in Pennsylvania "has not been unsatisfactory." At page 375 of the Proceedings, he says:

"I think the Pennsylvania law is as nearly a just and equitable law as can be drawn to both the companies and the public, with possibly the exception, from the public point of view, that their power over security issues is limited."

His commendation of the Pennsylvania plan is based primarily upon the fact that the commission has no power to prevent a company from putting new rates into effect. At page 375, he says:

"The Pennsylvania Commission has no power to suspend a rate until after a complaint and hearing, or upon its own motion and hearing, and consequently the rate may become effective in thirty days after you file it."

On the other hand, Mr. Tingley criticises state regulation in New Jersey because of delay in the decisions of the commission. There the companies have the right to initiate rates, but the state commission has the power to suspend them for three months. Mr. Tingley says, with respect to New Jersey, that the commission freely exercised its power of suspension, that its calendar was crowded, and that "it took you anywhere from six to nine months to get a decision." He adds that "in the meantime, the patient died." However, upon particular inquiry by Chairman Elmquist, it was shown that the report of the patient's death was "exaggerated."

Mr. Tingley was inclined to favor state regulation on the Pennsylvania plan as opposed to a service-at-cost plan, with local control. At page 377 of the Proceedings, he testifies:

"Commissioner Meeker: Do you think commission control as under the Pennsylvania law would be a satisfactory service-at-cost plan, so far as you know it?"

"Mr. Tingley: I do, sir, for the simple reason that in the service-at-cost plan the city council or the city authorities, by whatever name they are called, are prosecuting attorney, judge and jury, and the three offices are incompatible.

"Mr. Warren: Mr. Tingley, would not that objection be lessened in case of the administration of the service-at-cost [plan] by the state commission in cases where the state commission has sufficient jurisdiction to change this so-called contractual franchise?"

"Mr. Tingley: I do; yes, sir.

"Mr. Warren: They would be apt to administer it without that selfish purpose.

"Mr. Tingley: Yes, sir.

"Mr. Warren: That is bound to influence the other party to the contract.

"Mr. Tingley: Yes, sir; but then you are back to state commission regulation."

The burden of the complaint against state regulation, voiced by the witnesses for the American Electric Railway Association, was either politics or delay. Dr. Thomas Conway, of Philadelphia, laid great stress upon the advantages of the Pennsylvania and Connecticut laws, which are alike in that they permit the companies to change their rates at will, and, in case of complaint, fight the matter out afterwards before the commissions. He advocated giving the companies a very wide latitude to experiment with new rates. Commissioner

Sweet questioned him rather closely with respect to this policy, as will appear from the following testimony found at pages 965 and 966 of the Proceedings:

"Commissioner Sweet: * * * * Do you think it would be possible to induce the public authorities of the various municipalities of the United States, or state commissions, to throw the doors open as wide as you suggest and give the companies a free hand to place the fares wherever they please, right off, as an immediate measure?"

"Mr. Conway: It certainly will never be done unless somebody suggests it to them.

"Commissioner Sweet: Well, would it be done if it were suggested?"

"Mr. Conway: Perhaps not, but this far, Mr. Commissioner, I think it will help: The average commissioner, I believe, except, perhaps, where it affects his own home town, his own neighbors, wants to do the right thing. Now, if they hold these cases up, you go in and talk to them in their private offices, or you meet them on the street, and they will freely admit that these prolonged hearings are not fair to the company, but they will say to you, 'We must give everybody in the community all the time he wants to talk himself to death, or he will go out and howl that the commission sat on him and would not give him a fair hearing.'

"Commissioner Sweet: That is true, isn't it?"

"Mr. Conway: Yes, sir; and it means hundreds of volumes of testimony.

"Commissioner Sweet: Yes.

"Mr. Conway: Most of which is utter nonsense. Now, his time is frittered away on these things. My observation is that the moment the rate goes in, it is a nine-day wonder if it does not outrage the community, because it is so ill-advised and poorly conceived. When you come to the trial of the case, the newspapers in Pennsylvania give it very little notice. My observation is that most of the time is taken up with the disputes about facts, where you have no guide. In one city a 6-cent fare is going to give you an 18% increase and in another city an 8%. Instead of spending time on those questions, why not put it in and see what it gives you?"

"Commissioner Sweet: As I understand it, in Pennsylvania, where the rate can be changed practically at the option, temporarily at least, of the company, * * * * there has been no instance, has there, where the door has been thrown wide open and the company allowed, at its own sweet will, to place the fare wherever it pleased?"

"Mr. Conway: Yes; that is the situation. Take the case of the Pittsburgh Railways Company. Before the 6-cent fare went into effect the commission held hearings and allowed the 6-cent fare to go in, but required the company to sell two tickets for 11 cents, instead of 11 tickets for 55 cents, as they wanted to do. Now, since then, the company has twice changed the rate, and the matter has not yet been decided.

"Commissioner Sweet: But if I understand you right, the state commission, of its own motion, could put a veto on that?"

"Mr. Conway: No, except it went through the process of determining the justice of the rate. What the state did was to immediately begin a valuation of the property.

"Commissioner Sweet: It goes into effect immediately?"

"Mr. Conway: Yes.

"Commissioner Sweet: But could not the state commission, without waiting for a complaint, decide against it?"

"Mr. Conway: Not without getting the facts. In other words, they cannot just arbitrarily say that the rate is excessive. They have to have evidence to support it.

* * * * *

"Commissioner Sweet: Well, laying aside the situation in Pennsylvania and Connecticut, and taking other states where they have no provision of that kind * * * * don't you anticipate that it would be a very difficult thing, indeed, to bring about a situation that would permit the companies to place their fares wherever they saw fit?"

"Mr. Conway: Mr. Commissioner, my own judgment is that the commissions themselves are coming to this view."

Dr. Conway's opinion as to the superiority of state over local regulation is given at page 965 of the Proceedings:

"Generally speaking, there is no doubt in my mind that state regulation, through a utility commission, is better than municipal regulation.

"In the first place, the state commission, assuming the same set of men are doing the regulating, will do better work than those men would as municipal commissioners. The state commissioner, if he gets in there knowing nothing about the business, and unfortunately many of them do come to their positions in that way, is educated; he cannot sit there day after day and listen to cases and to witnesses dealing with these matters without getting a pretty good education in the course of a few years on the question. Now, you take a councilman or a mayor. There is only one out of three or four or a half a dozen of them that ever has a rate matter to consider. They come there without very much knowledge, and it

is certainly true that in that respect a little knowledge is a dangerous thing, when they have any, and they have no trained advisers, such as the engineers and accountants of the commission. The cities have no trained lawyers, such as counsel of the commission, that can bring out the facts, and the consequence is that justice is not done, because of a lack of knowledge of the judges."

Mr. W. D. George, one of the receivers for the Pittsburgh Railways Company, testified that "they have a very high regard for the Public Service Commission in the state of Pennsylvania. Public sentiment supports it."

Mr. Charles A. Fagan, another of the Pittsburgh receivers, gave very interesting testimony with respect to the attitude of the City of Pittsburgh toward the company. In answer to a question as to how the public looks upon the increased fare in Pittsburgh, Mr. Fagan says, at page 619 of the Proceedings:

"The principal municipality, the City of Pittsburgh, consisting of the Council and the Mayor, who look after such things as this, privately sympathize and commiserate with us and say it has to be done, but publicly they oppose it and have filed an objection before the Public Service Commission against the increase."

Mr. Fagan referred to overcapitalization and the giving of construction contracts to favorite contractors in the old days as contributory causes to the present condition of the Pittsburgh street railway system. This led Chairman Elmquist to ask him further with respect to the extent of state or local control prior to the receivership. The following testimony, found at page 622 of the Proceedings, throws light upon the past, present and future relations of the electric railways to regulation:

"The Chairman: Had the city or the state commission attempted to exercise any jurisdiction over the operation or the construction or the letting of contracts or the expenditure of money prior to the time you became receiver?"

"Mr. Fagan: No, the only activity that the city has shown in relation to this railway company has been to always criticize it, and since the Public Service Commission was established—this Public Service Commission is a recent creation, it has only been in existence about five years—is to file petitions against anything that the railway company wanted. Now, they among others were anxious to have this receivership created, and we thought that when the receivership was created that would probably end the antagonism of the city, but instead of that they just carried it on the same as they always have. This railway company heretofore has not been a very popular function in the city of Pittsburgh and politicians have always taken advantage of the virtue of having a propaganda against the railway company. Now, as I say, we thought that would end with the appointment of receivers, and it did end to a very large extent, but when any concrete proposition is made like the increase of fares the city immediately comes in and files objections to it.

"The Chairman: Were the politicians holding the company up?"

* * * * *

"Mr. Fagan: * * * * The politicians and the promoters of street railways when these affairs were going on were usually acting in concert, at least they were in our bailiwick. I do not know how they were in other places, although I have heard of some other places where that situation did exist.

"The Chairman: If these properties go back to private operation and control again how are you going to prevent a recurrence of that old condition?"

"Mr. Fagan: Well, of course—do you mean these receivers or the public?"

"The Chairman: The public.

"Mr. Fagan: I do not know except by the different standards of honesty that prevail now and the difference in the publicity that is given to all these public questions. And in our state by the existence of this Public Service Commission, which by the way is a very efficient and capable body, which did not exist at the time when these corporations were put together. At the time when they were put together and when these securities were exploited the only test was whether you could sell them. You had to get no consent from anybody like the Public Service Commission."

Mr. Morris L. Cooke, who, as Director of Public Works in Philadelphia, and as Acting Director of the Utilities Bureau, had abundant opportunity to observe

and study the relative merits of state and local regulation in Pennsylvania and elsewhere, favors a strong state commission, as shown by his testimony at page 1698 of the Proceedings:

"The Chairman: In your judgment what is the best method by which to regulate these corporations, the method for regulating these corporations?"

"Mr. Cooke: I believe we have to have state commissions to perform two functions: to be the whole thing for most of the cities of the state and for matters in which more than one city is interested, and to standardize such things as accounting practice and working conditions and all such things; but I believe that where the city is large enough to retain adequate technical advice a good many of the matters in connection with the regulation of local utilities ought to be in the hands of municipal authorities. I would put it this way, Mr. Chairman, that what can be best done by the locality ought to be done by the locality, but there are many things * * * * that cannot be done efficiently by the localities, as you know only too well. For that reason I believe in building up a strong state commission."

Ohio may almost be regarded as the cradle of the service-at-cost idea. Cleveland, Cincinnati, Youngstown have all adopted the plan." Ohio is one of the states where the state commission has no authority to override the provisions of a municipal franchise contract fixing rates. Mr. Walter A. Draper, Vice-President of the Cincinnati Traction Company, testified at some length respecting the service-at-cost plan in effect in Cincinnati. He was then asked if he knew of any other solution of the general problem confronting the electric railway industry. Upon this point, at page 507 of the Proceedings, he says:

"The only other solution that I can see is to give the state commission such power that it can regulate fares from time to time as the necessity would require.

"Commissioner Gadsden: Do you think that is going to restore the credit of this industry?"

"Mr. Draper: It would not immediately. It would tend very largely to do so. * * * *

"Commissioner Gadsden: Here is the thought that I wanted to bring out—whether you entertained the view that some of them entertained, and testified to before the Commission, that the alternative presented to the industry at this time in order to permanently restore its credit is either some well-worked-out service-at-cost plan or municipal ownership?"

* * * * *

"Mr. Draper: I say, if you give the public utilities commission power to regulate rates as the necessity would require, you would restore its credit, if you were assured that it could be worked out.

"Commissioner Gadsden: Why, then, do we find companies operating in states where the public service commissions have full powers, in just as bad shape as the others?"

"Mr. Draper: Well, as I say, because it does not work out. The theory is all right, but it is pretty hard to get at in practice. If you fix something that is automatic, as the cost-of-service plan, then you have it settled. You do not have to depend upon a human agency at all."

Mr. John J. Stanley, President of the Cleveland Railway Company, took the position that he was entirely satisfied with local supervision, but would not object to state supervision. His testimony on this point appears at pages 598 and 599 of the Proceedings, as follows:

"The Chairman: Now, looking forward to the best sort of scheme that can be evolved, do you feel that the state commission should have anything to do with the control of the rates, service, extensions, betterments, expenditures and accounting, of your company?"

"Mr. Stanley: It surely depends entirely upon the personnel of any board that you go to.

"The Chairman: Well, should the state commission have anything to do with the things that I have mentioned?"

* * * * *

"Mr. Stanley: Yes; I think so.

"The Chairman: What should they have to do with it?"

"Mr. Stanley: I think we would be safer in going to the state commission than we would in going to a city commission.

"The Chairman: Well, do you believe that the state commission, then, should have that supervision over your company, which is now maintained by the city?"

"Mr. Stanley: The fact of the matter is that they have supervision over our company today, * * * * * because when we appear before the state commission for an increase in capitalization, we have to show our expenditures.

"The Chairman: Oh, that is true, but the state commission has nothing to do with the service furnished by your company.

"Mr. Stanley: Not at all.

"The Chairman: Or with its construction?"

"Mr. Stanley: No.

"The Chairman: Or with its operation?"

"Mr. Stanley: No.

"The Chairman: Or its accounts?"

"Mr. Stanley: Well, only as far as—

"The Chairman: The only supervision is as to capitalization. The city has that (supervision of rates, service, extensions, betterments, expenditures and accounting) entirely. Now, then should the state or city have that supervision?"

"Mr. Stanley: Personally, I don't care which has it.

"The Chairman: Well, you must have an opinion. You have been in this business for a long while.

"Mr. Stanley: I know that the city has had it, and we have not had any trouble so far.

"The Chairman: Are you satisfied with the present arrangement?"

* * * * *

"Mr. Stanley: Yes; I am."

One of the greatest problems of public control over electric railways arises from the fact that in so many cases the street railway lines not only extend beyond the boundaries of the central municipality, but in fact reach out to serve a multitude of communities. Sometimes, these communities are grouped together in a metropolitan area, but sometimes they are spread out through an entire section of a state without anything in common except transportation service. These conditions unquestionably militate against effective local control and even constitute a serious obstacle to municipal ownership. The city of Cleveland is comparatively well situated for local control, as the suburban municipalities served by the Cleveland Railway lines are few and relatively unimportant. That street railway transportation is essentially a local problem was strongly maintained by Secretary Baker. He is not averse to regulation by state commissions where the municipalities are not prepared to act for themselves, but he thinks that the work of the commissions should be primarily educational, to teach the municipalities self-help. His testimony, at pages 1012 to 1014 of the Proceedings, is as follows:

"The Chairman: Do you believe that where a company extends through two or more villages and also out into suburban territory it would produce greater harmony and more uniform service if the state itself fixed the rate and had control of the service?"

"Secretary Baker: No; I think that would create a riot in Cleveland; if the State of Ohio undertook to fix the street railroad rate in the City of Cleveland, I think it would create a riot.

"The Chairman: That may be so in Cleveland, because the question has been so thoroughly debated there; but as a general proposition, do you think that would naturally follow?"

"Secretary Baker: No, I do not think so, as a general proposition. I think as a general proposition the state commissions have won the confidence of the communities, and they are adequately manned and officered to perform their duties and get the job committed to them done fairly expeditiously. Many of the state commissions have had on them men of very high character, statesmen. A great many of them are doubtless known to you as they are to me. In states like that I think probably the state's undertaking to adjust would be accepted by the public generally. It would not in Cleveland, in my judgment. * * * * * There has been no difficulty, as a matter of fact, in Cleveland with the outlying municipalities; no serious difficulty.

"The Chairman: It has been suggested from some sources that it might be a good plan

to give the city in the first instance the right to prescribe rates of fare and also service regulations and extensions, subject to the right of appeal to the state commission, thus appealing to another technical, scientific body, rather than to a court.

"Secretary Baker: I should be very much opposed to that for Cleveland.

"The Chairman: Why?

"Secretary Baker: Because I think the responsibility for the management of its own affairs is the greatest educational influence that the City of Cleveland has; the fact that the people of that city have studied and grasped and solved an intricate and complicated problem like the street railroad problem, has made them a more self-conscious and a stronger, more virile people than they were before that problem was put up to them; and I should be very sorry indeed to see the responsibility for the management of their own affairs, in as intimate and important a matter as street railroad service, taken away and transferred to a state agency.

"The Chairman: Would it be taken away if there were simply a right of appeal by the aggrieved party to the state?

"Secretary Baker: Oh, yes. The appeal would be control. Their original dealing with the problem would not even make a *prima facie* case.

"The Chairman: There are a great many communities that have not made the intensive study of this subject that you have at Cleveland.

"Secretary Baker: Certainly.

"The Chairman: And they are perhaps ill qualified to meet the problems in a satisfactory way. Would it be well to have those people depend upon the state?

"Secretary Baker: Yes; I think as long as they are in need of that sort of assistance it would be a good thing for the state to give it to them; but the attitude of the state should be constantly that of education for self-help rather than the substitution of the state agency in local concerns.

"The Chairman: Then, in your judgment, the street railroad problem is one of purely local concern, and there should be different conditions in the different states?

"Secretary Baker: Yes; I can imagine the cities of Cleveland and Cincinnati having entirely different problems. As a matter of fact they do have—very different."

Mr. Henry L. Doherty, of New York, has had considerable trouble trying to get on peaceably and profitably with the City of Toledo, another Ohio community where street railway transportation seems to be regarded as a local problem. Mr. Doherty's difficulties with local control are set forth at page 405 of the Proceedings, as follows:

"The Chairman: Could the problem be solved by getting away from fixed franchise rates and leaving it to the utility commissions to determine the reasonableness of a rate?

"Mr. Doherty: Yes, if the utility commissions would act promptly it would, and I think utility commissions are in better shape to determine what a rate should be than the local authorities.

"I have had one case where we have been trying to settle the street railway difficulty for a number of years and we have had continuous negotiations I would say for nearly five years with the city authorities and have never reached a settlement, and largely I think because the city authorities felt that they had to comply with what they believed to be the wishes of the people; and yet in many ways those conditions would have been something under which the company could not have lived.

"In that case—I refer to Toledo—we took hold of the Toledo situation when it had been a matter of controversy for a long time, and the people there were determined to have a three-cent fare, and a great number, perhaps a majority of the population, felt that if they voted for a three-cent fare that should entitle them to a three-cent fare, simply because they had voted for a three-cent fare. They had that imbedded in their minds, and when we would try to tell them we could not furnish street railway service at three cents they would say, 'We voted to have you do it.'

"Now we have never been able to make the local authorities believe that the people of the city understood that we must have a higher rate of fare, and yet I think the people as a whole know that we must have a higher rate of fare, and I think they would be willing to pay it.

"I think in most every case, if the matter was laid properly before the people, without any confusion from the other side, and was honestly presented from both sides, the people would be willing to pay the necessary amount to provide adequate and proper street railway service."

Further on, at pages 406 and 407 of the Proceedings, we find the following testimony:

"The Chairman: Now, if the utilities and the public authorities can reach the point where these properties can be properly valued and you get away from a fixed franchise rate, have you not as a matter of fact got about all that a public service corporation should have?"

"Mr. Doherty: Well, that is all I think that any of the public service corporations should ask for, but they are asking if possible that that really be granted to them very quickly.

"The Chairman: Oh, I am asking questions now with reference to a permanent policy and not immediate relief.

"Mr. Doherty: I agree with that policy until we can find some better one, if there is a better one, all right, but that is the only one I see now.

"The Chairman: If you can reach this proper value and have the state fix the rates, is there any reason why you should adopt the cost-of-service plan?"

* * * * *

"Mr. Doherty: Well, I should think it would be preferable to have the state commission determine the valuation * * * * but it seems to me the matter of being able to adjust yourself to new conditions without a new hearing is very valuable. Now, here is what happened, Mr. Elmquist, in the matter of public service commissions. If the day ever comes when the farmer must go to the public service commission or some agricultural commission and get the consent of that body to plant one field in wheat and another field in corn he will probably say, 'Oh, well, it is so much trouble, I will just let it go, I will not plant anything,' simply on account of the delay. We have not been hurt so much by public utility commissions, even where they have shown their teeth in many cases, because we have been able to tell our story to them and get it before them. But we have often been intensely hurt by delay, and the street railway companies now are in a condition where they need assistance, and they need assistance at once, and if they do not get it at once their credit is going to be permanently crippled. The whole industry's credit is going to be so crippled that I doubt if it can be reestablished."

Mr. W. B. Head, Vice-President of the Dallas Railway Company, referred to the fact that there is no public service commission in Texas and stated that on the contrary there is "what is known as home rule—an act passed by the legislature in 1913, giving to all cities of 5,000 or more practically all the powers of rate regulation that the legislature itself would have." At pages 636 and 637 of the Proceedings, Mr. Head discusses the agitation in Texas for state regulation, as follows:

"Commissioner Gadsden: Is there any agitation in Texas for a state commission, Mr. Head?"

"Mr. Head: Yes, sir, there has been a great deal of agitation for a state commission, which comes from two angles. The long distance toll service in Texas is not regulated by any authority. The smaller communities, in the towns of less than 5,000, have no rate regulation.

"Commissioner Gadsden: What is the attitude of the public utilities towards that?"

"Mr. Head: The public utilities have taken the attitude of being favorable to a state commission, if the state commission has final authority. There was a bill introduced in the last session of the legislature, and it passed the House, but did not get by the Senate—although it did not reach a vote—that undertook to create a state commission, making the commission's jurisdiction in home rule cities appellate or upon the request of the municipality. That I think will really solve the situation in Texas."

That urban transportation is essentially a local problem was maintained by Mayor E. V. Babcock of Pittsburgh. After expressing the opinion that "the street railway passenger transportation problem in Pittsburgh probably is more complicated than in any other large American city," and stating that "there are, in Allegheny County, 57 separate municipalities served by the Pittsburgh Railways Company, all with different municipal governments and each with its own municipal ordinances," Mayor Babcock, at page 1899 of the Proceedings, goes on to say:

"It must be recognized that transportation is fundamentally a local problem and yet with such a large number of separate municipalities it is practically impossible, under existing legislation, for all of these municipalities to act in concert in handling the problem."

Further along, at page 1900 of the Proceedings, he says:

"There is no panacea for the transportation ills of the present day. Regulation by public service commissions, service-at-cost plans, or municipal ownership will not usher in the day of the millenium in this respect. The transportation problems will always be one of the great, if not the greatest problems of our municipal life and must be handled in the same manner that all other great industrial and commercial enterprises have been worked out in the past. It is obvious that the state public service commissions, while satisfactory for other forms of public utilities, can never completely solve the large local problems of transportation in our great cities. Transportation uses the local highways and must necessarily conform to all local developments. It is brought into daily touch with the life of the city in such a way that there must be the closest harmony and cooperation between the local street railway company and the municipal authorities. This inevitably points to some operating arrangement whereby the local municipal authorities shall be placed in a position to exercise a large amount of control, giving the city government a voice as to proper standards for transportation service and operating conditions."

Mr. Harlow C. Clark, editor of *Aera*, the official organ of the American Electric Railway Association, expressed the opinion that the state regulating commissions, where they have control of rates were "generally sympathetic" during the war period; he thought that in a large majority of the cases they granted the relief prayed for in the companies' petitions. At page 900 of the Proceedings the following question and answer appear:

"The Chairman: Broadly speaking, the industry has no real complaint of the service given by the state commissions during the war, has it?"

"Mr. Clark: Only so far as delays have occurred, Mr. Commissioner, in administering the law. Whether those result from the perhaps unnecessarily cumbersome procedure or not, I think you can only discuss in individual cases."

Mr. Clark's outline of a permanent plan for the solution of the electric railway problem has already been set forth in Chapter XXIII of this report in connection with the discussion of how credit can be restored. It will be remembered that one of the features of his plan contemplates "power of regulation, either by state or municipal authorities, in respect to all matters affecting conditions and character of service, including extensions, improvements and betterments." Rates are to be adjusted automatically on the basis of the cost of service. Mr. Clark is inclined to favor a combination of state and local supervision if it can be worked out on a proper cooperative basis. The relative merits of state and local regulation are discussed at pages 900 and 902 of the Proceedings, as follows:

"The Chairman: Now, in your judgment should regulation be exclusively in the municipality or in the state, or should there be some sort of a happy middle ground whereby you can work out proper cooperation between both?"

"Mr. Clark: I think the advantages of the two systems might be stated in this way, that when you have state regulation it is more stable, it is less likely to be affected by prejudice, and on the whole it is perhaps fairer both to the company and to the public in the long run. That when you have municipal regulation such as is extant in Cleveland, that you secure perhaps a greater degree of cooperation from the public than you do when the state commissions are in charge of the regulation. I believe that your suggestion would make an ideal system of regulation if it could be put into effect, if some way of combining the two could be devised."

"The Chairman: Do you think that the state as such should attempt to regulate the service within a village or city?"

"Mr. Clark: Well, there are a great many questions entering into that, Mr. Commissioner."

"The Chairman: When I speak of service I refer to speed, stops, and to the ordinary regulations which are so closely identified with the welfare of the city itself."

"Mr. Clark: In a modern city the systems extend usually beyond the city limits, the suburban lines are part of the city system, the interurban lines are part of the city system. The authority of a city regulatory commission would cease with the city limits."

"The Chairman: Yes."

"Mr. Clark: I refer particularly to Boston, where they have what I think is known

as the Metropolitan District, where the service extends for miles beyond the city limits of Boston, and while Boston City has no particular jurisdiction over those communities, it is really part of the community life of Boston, and service on those properties should be regulated as a whole and not allow the City of Boston to regulate the service within the well defined limits of the city itself and allow the other municipalities to regulate it within their limits, but that there should be some general regulation of that system which would make it most efficient and the best for all the people served.

"The Chairman: Well, referring now to this Boston situation, do you think it would be fair to the public as well as to the utility to permit the municipal authorities in Boston to have jurisdiction over the service and extensions of street cars subject to an appeal to the state commission by either party?"

"Mr. Clark: I believe that in that particular instance it would not be very workable.

"The Chairman: Why not?"

"Mr. Clark: For the reason that each of these other communities would also have the right of appeal to the commission and that, as I say, it would be difficult to coordinate the entire system of service to one whole that would most efficiently serve all the communities. I think it might be possible to create a metropolitan district which would have that right of an appeal to the public service commission.

"The Chairman: Do you believe if the right of appeal by these different municipalities to the state commission were granted it would promote confusion and delay and uncertainty rather than stability?"

"Mr. Clark: I am inclined to think so, yes, sir.

"The Chairman: But you would have a final body to determine the question?"

"Mr. Clark: Yes.

"The Chairman: And establish the general rules which municipalities must obey?"

"Mr. Clark: Yes."

Mr. Clark gave an affirmative answer to Chairman Elmquist's question as to whether he did not think that "there is a very strong sentiment throughout the country in favor of home rule of these utilities." He called attention to the fact, however, that Governor Smith, of New York, elected on a home rule platform, vetoed a service-at-cost bill for the City of Buffalo on the ground that it withdrew the street railways of Buffalo from the jurisdiction of the Public Service Commission. With respect to the general attitude of the electric railway industry on the question of state or local regulation, Mr. Clark said that he knew a very large number of men who preferred state regulation and a few men who preferred local regulation. Personally, he believed that as a mere matter of economy and efficiency state regulation is necessary in the majority of cases. It seems that this particular conclusion was based upon the assumption that under a scheme of local regulation on the basis of service at cost, the expense of maintaining the regulatory machinery would have to be borne by the railways. So far as rates are concerned, Mr. Clark was inclined to favor the automatic service-at-cost plan rather than regulation by a state commission, even where the commission has unrestricted authority. This is shown by the following testimony at page 906 of the Proceedings:

"The Chairman: Then, don't you believe that as far as the industry is concerned, you are entirely safe to have either a cost-of-service plan or a scheme of state regulation, wherein the state can fix the rates?"

"Mr. Clark: I think the industry as a whole would feel very much better than it does now if it was possible to conduct state regulation under those conditions, but I doubt if it would feel as well as it would under an automatic system, by which they were absolutely assured of these increases as they came up, and in which situation the judgment of no man or no set of men intervenes."

Mr. Harold L. Stuart expressed himself in favor of state regulation, as will be seen from the following quotation taken from page 194 of the Proceedings:

"I am thoroughly in favor, from an investment banker's standpoint, of supervision of public utilities.

"Commissioner Sweet: Would you make a distinction there between it being done by the municipality itself or by a state organization?"

"Mr. Stuart: Certainly I would much rather it be done by a state public utility commission. I believe that is freer from local prejudices, and it is in a position to render a fairer judgment on any question than the local authorities would be."

Mr. Francis H. Sisson, of the Guaranty Trust Company, also expressed himself as favorable to state regulation, but did not appear to be unqualifiedly optimistic about it. At pages 318 and 319 of the Proceedings, he says:

"The commission form of regulation was developed largely with a view of remedying the evils of the rigid franchise method, but even the commission form of regulation is losing esteem among the thinking people because of the attitude many commissions have assumed toward the public utility corporations."

The deadlock between the State Public Service Commission and the City Board of Estimate and Apportionment in New York makes Mr. Sisson rather skeptical of a plan for a combination of state and local supervision. At pages 335 and 336 of the Proceedings appears the following:

"Commissioner Mecker: Your opinion, then, is that an undivided, single authority is to be preferred to any cooperative plan?"

"Mr. Sisson: Unless the right of ultimate decision is clearly fixed, I certainly think so."

"Mr. Warren: And made apparent."

"Mr. Sisson: I think they might work out some advisory relationship or something of that sort, but I think there should be but one authority in a situation of that kind, and that definitely fixed."

At page 351 of the Proceedings, Mr. Warren brings out Mr. Sisson's specific criticisms of state regulation in practice:

"Mr. Warren: You spoke of being in favor of public service commission regulation, as the Association which I represent here is on record as favoring."

"Mr. Sisson: Yes."

"Mr. Warren: Is there any particular feature in the administration of the public service laws which in this present emergency you would criticize or that you think might be improved?"

"Mr. Sisson: Well, in some instances; the matter that we discussed a while ago, the conflict between the public service commissions and the local authority. I think these laws drawn by the states ought to give the commission the full power to regulate rates upward as well as downward."

"Mr. Warren: Take cases where they have the complete power, as they have in Massachusetts and in numerous jurisdictions, is there still anything that you think has militated against the application of a remedy in this emergency in the last year?"

"Mr. Sisson: I think the fundamental thing that has militated against it has been political controversy."

"Mr. Warren: How about the delay?"

"Mr. Sisson: And the slowness of action which has failed to meet the crisis, as I pointed out in my first statement."

Running all through the testimony, we find unrestricted state regulation based upon the exercise of the police power and the service-at-cost plan based upon contractual relations discussed as alternative policies for the solution of the electric railway problem under continued private ownership and operation. Some of the witnesses seem not to have fully grasped the fundamental difference between the two plans, while others look to a combination of them as the ultimate solution. In Chapter XXIII of this report, I have already pointed out the apparent inconsistency in the two positions taken by General Tripp, once in favor of state regulation and control, and later in favor of a service-at-cost arrangement locally administered. Mr. J. K. Newman and some of the other witnesses had difficulty in seeing the distinction between the two plans. Mr. Harlow C. Clark, as we have seen, favored a combination of the two, and Mr. Luther

R. Nash, Stone & Webster's service-at-cost expert, also favored a combination of state and local control in the administration of the service-at-cost franchise. Upon this point Mr. Nash's testimony at pages 469 and 470 of the Proceedings is pertinent to our present discussion, as will be seen from the following:

"Mr. Warren: If you were recommending the supervision provision in such a franchise should you stop with the absolute jurisdiction in the local authorities, or should you provide an appeal, and if so, to whom?"

"Mr. Nash: I do not think that the absolute local supervision would work out to the best advantage. It has worked fairly satisfactorily in the cases where it has been tried, but experience with any of these franchises has been comparatively limited. It seems to me that in the final analysis authority ought to be lodged with the state regulatory authorities.

"Now, there are all kinds of degrees of jurisdiction between local and state that might be worked out. For example, the city might appoint a representative who would be called a supervisor or he might be an existing city official who would represent the city in negotiations with the company with respect to service, extensions, changes in rates or operating conditions, and in nine cases out of ten the city representative and the company representative would probably agree upon what should be done. In cases where they could not agree I think the logical appeal should be to the state commission, partly because of their wide acquaintance with the conditions which have arisen in some particular locality and partly because it removes the decision in the case further away from local appeal and prejudice. City officials are apt to make the best kind of a trade they can for their constituents and the state commissions on the other hand have a broader view and are more apt to decide the question upon abstract merits and with a view to the long range interests of the community rather than its immediate advantage."

The service-at-cost plan will be analyzed in the next chapter. Here we are primarily concerned with the suggestion that the entire problem of keeping the electric railways well-fed and well-groomed and in the harness for efficient public service be referred to the state utility commissions "with power." Our review of the evidence shows beyond a doubt that the electric railway companies are far from satisfied with the results of state regulation thus far; that their two chief complaints are "politics" and "delay"; that in many instances the state commissions have not enjoyed full powers; that where changes in the law are suggested, they take the form chiefly of the elimination of municipal authority and the enlargement of the powers of initiative of the companies themselves in rate matters; and that in spite of the general preference of the companies for state as contrasted with local control, public opinion in many urban communities is strongly in favor of home rule in the control of the electric railways on the theory that urban transportation is a matter primarily of local concern.

The possibilities of help through regulation are not what they might have been, as witness Mr. John A. Beeler states at page 1669 of the Proceedings:

"The electric railways were for so many years unaccustomed to regulation that they came to respect much too slowly the value of cooperation with state and municipal regulatory bodies. Today, when the electric railway needs all the cooperation it can get, it finds that it has been a demoralizer of public confidence in these very commissions and local authorities whose help would now be so valuable."

The limitations of unrestricted state regulation as a remedy for the ills of the electric railways, from the points of view of their owners and of their patrons, respectively, will be discussed in a later chapter.

CHAPTER XLI

SERVICE AT COST

The theory most generally and urgently advocated on behalf of the electric railway companies for the readjustment of their public relations and for the restoration of their credit under private ownership and operation is known as "service at cost." With respect to this theory, as with respect to many other things in connection with the street railway business, the tables have been turned in recent years. Service at cost originated with the advocates of low fares, who believed that 5 cents was too much as the price of an average street car ride. The bitter controversy between the City of Cleveland and its local street railway company, extending over a period of eight or ten years, finally culminated in the settlement proposed by Judge R. W. Tayler of the Federal District Court, and since known as the Tayler plan. This was the first street railway franchise in the United States, at least so far as the public knows, in which the service-at-cost principle was embodied, and Judge Tayler may properly be regarded as the "father" of service at cost.

Ten years ago the service-at-cost idea meant that the car riders were to pay for their rides just what they cost and no more. Since the cost of rides has been going up as a result of war prices the electric railway companies themselves have adopted the idea, and to them it means that those who render street railway service shall get for it what it costs and no less. In the old days it was a device on the part of the public to pull fares down; now it is a device on the part of the companies to push fares up. In this respect it is much like the reproduction-cost theory of valuation, which was advocated by the public in the era of low prices in an effort to get away from the permanent capitalization of high prices and possibly imprudent expenditures in the early years of railroad construction; while now the theory is advocated by the companies for the purpose of securing the benefits of appreciation in land values and also for the purpose of recouping the losses which their security holders, in common with all other fund holders, have incurred by the operation of economic law through the decrease in the purchasing power of money. From the standpoint of the car riders, the test of a service-at-cost plan is that they shall enjoy as low fares as possible while paying the full cost of the service. From the standpoint of the companies the essential test of the service-at-cost plan is not what the car riders pay but what the companies get. This distinction is important, because from one point of view the service-at-cost plan connotes a flexible fare, while from the other it connotes a flexible income.

Some of the witnesses before the Commission maintained that service at cost is the underlying aim of public regulation, and that, therefore, the difference

between commission regulation and service-at-cost contracts is a difference in form rather than in substance. Where commission regulation is unrestricted, continuous and effective, there is considerable force in this contention, as the principal difference between the two schemes is that regulation is more flexible and more dependent upon the exercise of human judgment, while service-at-cost contracts are more definite, fixed and automatic in their operations. Under present conditions the electric railway companies are eager for an assurance of a fixed return upon their investment, and in order to get that assurance they are quite willing to give up the advantages of a speculative investment where there are ten chances of loss to one of profit.

The service-at-cost idea as applied to electric railways is so new that it still has to be discussed for the most part from the standpoint of theory. The only service-at-cost experiment that has been in operation for a long enough time to yield important and relatively dependable results from the point of view of practical experience is that of the Cleveland Railway. Other experiments in the application of the service-at-cost principle have been embodied in the Dallas Railway franchise in effect in April, 1917; the Massachusetts legislation under which the Boston Elevated Railway system has been publicly operated since July 1, 1918, and the Bay State Street Railway system since June 1, 1919; the new Montreal Tramways contract, in effect in February, 1918; the Cincinnati franchise revision ordinance, passed in August, 1918, and the Youngstown franchise, in effect in January, 1919.¹ A service-at-cost plan was worked out in Philadelphia, but was disapproved by the Pennsylvania Public Service Commission; and service-at-cost plans worked out for Chicago, Denver and Minneapolis were all rejected by popular vote. Service-at-cost plans have been under discussion recently in many other communities, but no one of these can be of value to us unless for purposes of theoretical discussion. No two service-at-cost contracts are alike, not even excepting those enacted by the same Massachusetts legislature for the benefit of the two big street railway systems of that state.

Before analyzing particular service-at-cost plans that have been put into operation, we may properly consider what the principal elements of the cost of street railway service are. This is a matter of prime importance, as it is universally agreed that the actual and necessary cost of service under private ownership and operation must be paid either by the car riders or by their friends, the taxpayers. The four principal elements entering into the cost of street railway service are: (1) ordinary operating and maintenance expenses; (2) taxes and other public charges; (3) amortization of capital destroyed through operation; and (4) return upon capital invested in the enterprise.

Operating expenses include mainly wages and salaries, the cost of power, the cost of materials and supplies used in operation and maintenance, compensation for personal injuries and damages to property, and miscellaneous general expenses. At first blush it might be thought that the determination of the operating expense of an electric railway is a perfectly simple matter about which there need be no dispute, but this is very far from the truth. There are endless opportunities for differences of opinion with respect to the amount of expenses that are necessary in rendering a given amount of service. Here, questions may be

raised about the salaries paid to general officers, the wages paid to labor, the price paid for power or for coal and other supplies entering into its production, the waste of power through inefficient use, the waste of labor and power through inefficient schedules and improper routing of cars, and numberless other items of expense with respect to which good policies and bad policies, or good management and bad management, will bring widely different results. But with respect to items like these, the actual expenses of operation can be readily ascertained with reasonable accuracy. Whether particular items of expense are proper, and, if proper, whether the amount of the expense is excessive, are questions of great importance to those who have to pay the cost of service, but they do not involve doubt or uncertainty as to what the cost of service during a given period actually is. However, there are items that properly form a part of current operating expense which, in many cases, do not appear in the company's statement of the financial results of operation. The two most important items coming within this class are accident liabilities and deferred maintenance.

Compensation for accidents is clearly a part of the operating expense of the period within which the accidents occur. Yet, it is often a matter of years before the extent of a street railway company's liability for such accidents is finally determined. It will be found that at the close of any fiscal year an electric railway company, no matter how well managed, has incurred liabilities of this character which are not yet liquidated; yet, the extent of this undetermined liability depends, in large measure, upon care in operation and efficiency in the settlement of claims. This is well illustrated by the testimony of Mr. C. J. Joyce, representing Mr. Thomas E. Mitten, of the Philadelphia Rapid Transit Company. In Chapter XXXI of this report I have already cited Mr. Joyce's testimony to the effect that the number of accident suits pending against the Philadelphia Rapid Transit Company was reduced from 4,953 on December 31, 1910, to 2,524 on December 31, 1918. It has been the custom with some companies not to charge to the expenses of operation for a given year the undetermined liability for accidents. Where this plan is followed it means that the company is always worse off financially than it appears to be upon any given date. There is an accumulated but indefinite and unrecorded amount of operating expense that constitutes a liability against the future. A true service-at-cost plan necessarily includes an accident reserve in order that the compensation for injuries and damages may be properly charged against the cost of the service during the period when the accidents occurred.

The other major item of operating expense with respect to which a company's operating statement is likely to be misleading is the maintenance. In times when the management is more interested in paying dividends than in the upkeep of the property, or in times when it is difficult to secure labor and materials, or in times when revenues are too meagre to pay the full cost of operation, a company is likely to permit the accumulation of "omitted" or "deferred" maintenance, and where this occurs it means that the full cost of operation during a given period is not being paid during that period, but that the operating expenses are in part being postponed, with the result that a double burden of maintenance will fall upon the company during a succeeding period.

In the cost of maintenance, as distinguished from amortization, is included not only the cost of current repairs, but the cost of those replacements which become necessary from time to time in the ordinary process of keeping the property in condition for efficient service. Indeed, after an electric railway has gone through what is termed a "complete cycle of renewals," the accruing depreciation of the property is fully offset by current maintenance and renewal expenditures. The cost of service unquestionably includes the wear and tear on the property, but if, at the end of the year, the property, exclusive of additions and betterments made during the year, is in the same per cent condition of cost new that it was in at the beginning of the year, it is obvious that the entire cost of service, so far as maintenance and depreciation of the old property are concerned, has been taken care of in operating expenses. On account of fluctuations in renewals and uncertainties with respect to oncoming inadequacy and obsolescence, it is important that there should be included in the cost of service, as a part of operating expense, an extra allowance to build up a reasonable maintenance fund to equalize the renewals that may come along in bunches.

It will be seen that, with respect to this maintenance item, it is necessary in determining the true cost of service to steer a middle course. Care must be taken to include the full cost of maintaining the property at the highest practicable standard of operating efficiency, with a sufficient maintenance reserve to equalize the ups and downs in renewal requirements; while at the same time care must be taken *not* to include in the cost of service a separate allowance for ultimate depreciation that in fact is not accruing during the period for which cost of service is being determined.

With respect to the second principal element in the cost of service, namely, taxes and other public charges, ordinarily there is little reason for trouble in ascertaining what these items actually amount to. Here again there is room for grave differences of opinion as to whether or not particular taxes ought to be levied or particular charges made, but that involves questions of public policy and does not throw doubt upon the actual cost of service so long as the taxes and charges referred to are in fact levied against the electric railways. However, even here, the actual cost of service for a particular period is sometimes in doubt because a company has refused to admit the legality of taxes or other public charges levied against it. Tax litigation often extends over a number of years, and in that case the true cost of service for a particular year cannot be determined until the tax litigation has been settled. The ultimate result may be a decrease in the cost of service if the company wins, and an increase in the cost of service, on account of the expenses of the litigation and accumulated interest charges, if the company loses. It will be seen, therefore, that even if for purposes of determining the cost of service in a given year all taxes and public charges levied against the company are presumed to be legal and are provided for from current revenues, nevertheless, if the company loses, the expenses of the unsuccessful litigation will not have been provided for. However, there should be relatively little trouble in assigning to a given period that portion of the taxes and public charges which is properly to be considered a part of the cost of service.

The next major item in the cost of service is the provision for the amortiza-

tion of capital destroyed in operation during the period when the service is being rendered. If the capital value of an electric railway, recognized in a service-at-cost plan, represents the original investment in the property less its accrued depreciation, and if the property has reached a condition of stable equilibrium, the wasting away of the property, as I have already said, will be fully offset by current maintenance and renewals, if the proper standard of efficiency is maintained. Additions and extensions, however, will gradually depreciate from a 100 per cent condition at the time when they are installed to a condition approximating the permanent average for the entire property. This depreciation cannot be taken care of by maintenance; nevertheless, it is a part of the cost of service and should be provided for currently. Capital that is destroyed in the public service must be made good to the investors as a part of the cost of that service. As the moneys contributed for amortization cannot be economically expended or used in the maintenance of the property, they should either be returned to the investors and deducted from the capital value upon which a return is to be paid in the future, or else they should be invested in additions and extensions, if needed, without increasing the capital value. In either way the amortization charge, if properly estimated, will truly represent this particular element in the cost of the service.

The fourth major element in the cost of electric railway service is the cost of money, or the return upon the investment. This is determined by the recognized capital value and the allowed rate of return. Here again many opportunities arise for dispute as to the legitimate cost of capital, and also in many cases as to the actual cost of capital. In general, the cost of capital as an element in the cost of service is the return that the company is legally or equitably obligated to pay upon the investment. Here, however, we get into the difficulties that arise from a differentiation between capitalization and valuation. If the capital value upon which a rate of return is to be paid is fixed without relation to the outstanding securities and capital obligations of an electric railway company, it may turn out that the company has to pay more for the use of borrowed capital, or capital held under lease, than the full amount of the fair return recognized as equitably due to the investors considered as a single group. From the point of view of the company, the cost of capital includes its actual fixed charges plus a reasonable return upon the portion, if any, of the investment furnished by its stockholders. In this cost is included provision for the amortization of bond discount and expenses, but a question arises where, under the terms of its mortgage, a company is required to accumulate a sinking fund for the payment of its bonded debt. It is clear that a fixed charge of this nature is not a legitimate part of the cost of service, because the effect of the accumulation of a sinking fund for the payment of bonds when they fall due is to provide for the ultimate transfer of the bondholders' interest in the property to the stockholders, and if the amortization charges through which this transfer is effectuated are treated as a part of the cost of service and charged up to the public in the fares, the result will be that the public will pay for the property—or the bondholders' interest in it—and present it to the stockholders. In earlier chapters of this report I have already discussed the valuation and the rate of return, the two factors that go to determine the cost of capital. When those factors have been definitely fixed,

there is no further difficulty in ascertaining what the cost of capital amounts to as an element in the cost of service.

In the foregoing analysis I have included in a broad way all of the elements that go to make up the full cost of service during any given period, but we still have to consider the question of the surplus. As a matter of prudence, it may be advisable, especially in normal times, to add to the cost of service a margin for future contingencies. This is not strictly necessary where the business is well established, and where care is taken to cover all of the actual elements of current costs in the provision for current revenues. A contingent reserve fund is by no means so important under a service-at-cost plan as it is under a plan where a fixed and unchangeable rate of fare is the principal source of electric railway revenues. Nevertheless, it is difficult to make any financial arrangement so flexible that it will respond immediately and completely to fluctuations in the cost of service, and for that reason it may be advantageous to include for practical purposes in our estimate of the cost of service a little leeway for the purpose of stabilizing and equalizing the financial results of successive periods.

In fact, one of the primary questions to be determined in the application of the service-at-cost theory is the length of the period within which revenues and expenses are to be equalized. In general, it may be said that a car rider, when he drops his fare into the box, pays the full cost of the service rendered to him, and that the electric railway has no other source from which, either before or subsequent to that act, it can derive any additional compensation for the service. But obviously, the person who rides alone in a car out to the end of the line, or with two or three others during the period of low traffic, is not paying the full cost of the service rendered to him, while on the other hand the passengers riding for short distances, or in crowded cars during the rush hours, are paying more than the cost of the service rendered to them. In like manner, the passengers who ride on a stay-at-home Sunday pay less and the passengers who ride on a go-to-town Saturday pay more than the actual cost of the service rendered to them. Also, there are undoubted fluctuations in traffic and in operating expenses between different seasons of the year which affect the cost of the service at particular times, but it hardly seems necessary to bring the cost-of-service theory to so fine a point as to cause fluctuations in the rates of fare on account of seasonal changes, either in traffic or in operating expenses.

It remains a question as to how far the principle involved in the flexible fare adjusted to the cost of service should be modified by the advantages of stability in the charges for transportation service. Strikes, epidemics, wars, hard winters, hot summers, constitutional amendments, and other unusual occurrences are likely to cause a fluctuation in the cost of service, even where the periods compared are as long as a year. It is necessary, however, that some definite period shall be adopted as the unit of time within which the revenues are to be made equal to the cost of service, or that some other means shall be devised for securing reasonable stability in rates.

It will not be practicable to present in this report a complete analysis of all the service-at-cost arrangements that have been put into effect or definitely proposed. Perhaps it will be sufficient for our purpose to analyze with some care

the Cleveland plan, the Montreal plan, the Massachusetts plan, and the Cincinnati plan as representing distinct types of service at cost, and refer only briefly to the salient features of some of the other plans, insofar as they differ from these and tend to throw light on the fundamental problem with which we are concerned, namely, the potential efficacy of the service-at-cost principle in the restoration of electric railway credit.

Referring now to the Cleveland plan, the first important thing about it is that it was the sequel to a long-continued struggle on the part of the city to secure a 3-cent fare. The following are its most essential features:

(1) The recognized capital value of the property devoted to public use at the time the contract became effective is fixed and the method is prescribed by which subsequent additions to capital value shall be made. The capital value so fixed is used as the basis for determining the return upon the investment as an element in the cost of service, which in turn determines the rate of fare. The capital value is also used as the basis for determining the purchase price in case the city at some future time concludes to buy the property. If the city takes over the property before the expiration of the franchise, it will have to pay a bonus of 10 per cent upon that portion of the capital value represented at the time by capital stock, but if it waits until the expiration of the franchise to acquire the property, the purchase price will be the capital value as it appears at that time, and no more. Also, at the time the Cleveland plan was inaugurated, the capitalization of the company was cut down to correspond with the recognized capital value, and the plan provides that additions to capital value shall be measured by the par value of the new securities issued or the floating debt incurred upon terms prescribed in the contract. It is noteworthy also that this capital value has been adopted by the State Tax Commission of Ohio as the valuation of the Cleveland Railway property for purposes of taxation. Thus we see that a fundamental characteristic of the service-at-cost plan as worked out in Cleveland is the establishment of one definite capital value for rate purposes, for public purchase (with the qualification above mentioned), for capitalization and, incidentally, for taxation.

(2) The compensation of the investors takes the form of a fixed rate of return. For the first ten years of the experiment this rate of return was 6 per cent per annum upon the approved capital stock outstanding at any given time, plus the actual interest and amortization charges paid on funded debt, not exceeding, however, a total effective rate of 6 per cent, and 6 per cent on the floating debt. The plan as originally adopted did not contemplate any future change in the rate of return upon the company's capital stock, and made no provision for fluctuations in the cost of money, except as such fluctuations could be absorbed through changes in the rate of interest on borrowed money within the 6 per cent maximum. As a matter of fact, when the Tayler grant went into effect on March 1, 1910, the recognized capital value was represented by \$14,675,600 of capital stock, \$8,128,000 of 5 per cent bonds and \$1,288,000 of floating debt, making a total of \$24,091,600; whereas nine years later, on March 1, 1919, the capital value was represented by \$28,720,055 of capital stock and \$5,495,000 of 5 per cent bonds, with no floating debt, making a total of \$34,215,055. The change in

the relative amounts of stock and bonds outstanding indicates that under the Cleveland plan the company has found it most advantageous to finance itself by the sale of stock upon which the rate of return fixed in the original grant was 6 per cent. In 1919, shortly after the franchise had been renewed upon the old terms, the trainmen struck for a large increase in wages. As a concession to the company to induce it to settle the strike, the city authorities consented to enter into an arbitration proceeding with the company to determine whether the fixed rate of interest allowed on the capital stock should be increased from 6 per cent to 7 per cent, and, as I have already fully explained in Chapter XXXIX of this report, the Arbitration Board, by a majority vote, recommended that the contract be changed so as to increase the rate to 7 per cent. Thereupon, the city council passed the necessary ordinance amending the franchise, and unless it is ultimately defeated by referendum the rate of return upon the capital stock under the Cleveland plan will hereafter be 7 per cent.² No change has been made in the provision limiting to 6 per cent the rate of interest on funded or floating debt, including the cost of amortizing bond discount, if any, and, therefore, it will be more than ever to the interest of the Cleveland Railway Company to finance itself through the sale of additional stock.

(3) The nominal duration of the franchise under the Cleveland plan is 25 years, the limit set by the Ohio state law, but the plan contains provisions which offer an extraordinary inducement to the city to renew the franchise at the end of each 10-year period. If it fails to do so, it will lose, during the remaining fifteen years of the life of the franchise, the right to initiate extensions and permanent improvements, and will lose the right to control the service under the terms of the contract. Moreover, the company will gain the right, regardless of the actual cost of service, to charge the maximum rate of fare permitted by the contract. These inducements for renewal are so strong that the Board of Arbitration in the seven-per-cent-return proceedings recognized "the strong probability that the grant will be renewed and so become practically perpetual." In fact, the grant has already been once renewed. Nevertheless, the city has reserved to itself the right to terminate the franchise at any time upon six months' notice, by taking over the entire property and paying therefor the capital value plus a bonus of 10 per cent on that portion of the capital value not represented by the funded or floating debt assumed by the city at the time of purchase. Moreover, the city also has reserved the right to designate a licensee to take over the Cleveland Railway Company's property upon the same terms upon which the city may take it over, subject to the condition that such licensee shall agree to accept a smaller return upon the portion of capital value represented by capital stock, by at least one-quarter of one per cent, than the return which the Cleveland Railway Company at the time is entitled to receive or is then willing to accept. In case the franchise is not renewed, the city or its licensee may acquire the property when the franchise expires, without paying the 10 per cent bonus, but the city is under no absolute obligation either to renew the franchise or to acquire the property. The city may not, however, even at the expiration of the franchise, grant a franchise to any other company to operate a railway over the existing lines of the Cleveland Railway Company or any one of them, except upon

condition that such other company purchase the railway or such portion of it upon the terms prescribed in case of purchase by the city. In practical effect, the Cleveland plan provides the equivalent of an indeterminate franchise, terminable at any time when the city is ready to take over the entire property, both inside and outside of the city limits, and pay therefor the recognized capital value plus the 10 per cent bonus on the amount of the capital stock then outstanding.

(4) The Cleveland plan provides that the physical property shall always be maintained at a standard equal to 70 per cent of its reproduction value, and that when replacements are made the full cost of reproducing the identical items of property withdrawn from service shall be paid as a maintenance charge regardless of the actual cost of the original items withdrawn. This provision precludes the capitalization, at the time when replacements are made, of the increased cost of elements of the property arising from the fact that wages and the prices of materials have increased. This is not in accordance with the rules of accounting prescribed by the Interstate Commerce Commission and by state public service commissions generally. While the general price level is rising, this rule tends to increase the current cost of service and to keep the capital account below the actual amount of the investment; on the other hand, when the price level is falling, the opposite effects will be produced where the items of property being withdrawn from service and replaced represent original installations at a higher level of prices.

Of the original capital value recognized in 1910, between 25 and 30 per cent represented franchise values, unpaid rentals of the Municipal Traction Company, and pavement belonging to the City of Cleveland. Obviously, these items, or at least the first two of them, were not proper items for permanent capitalization; yet, the plan makes no provision for the amortization of these elements of the capital value. Furthermore, the plan makes no provision for the amortization of the permanent depreciation accruing on additions and extensions installed subsequent to the date of the grant, and ultimately representing the difference between the cost new of such additions and extensions and the 70 per cent condition in which the property as a whole is to be maintained. This means that an ultimate depreciation approximating 30 per cent on all new investment is not directly provided for as a part of the cost of service under the Cleveland plan. The amount to be expended from month to month on maintenance and renewals is limited to a certain allowance per car mile. This allowance is subject to increase or decrease from time to time by agreement between the city and the company, or, in the event of disagreement, by arbitration.

(5) Operating expenses, other than maintenance, are limited under the plan to a fixed allowance per car mile, but this allowance may be changed from time to time by agreement or by arbitration. No provision is made for an accident reserve, and the deferred liability of the Cleveland Railway Company on account of unliquidated personal injury claims is not counted in the cost of service for the period within which the accidents occur. This has the effect of keeping the Cleveland Railway Company constantly behind to the extent of this accumulated accident liability. It does not necessarily result in a lower cost

of service or a lower rate of fare in any given year, as the deferred liabilities from preceding years that are liquidated during a given year may fully offset the liabilities for that year which are deferred to succeeding years.

(6) Under the Cleveland plan, the street railway property is taxed the same as any other private property, and the company is required to keep the pavements in repair between the rails and the tracks and to a distance of one foot on the outside of the outer rail. The company is not required to repave or to sprinkle the streets or keep them clear of ice and snow, or to pay bridge rentals, or car license fees or local franchise taxes. It is not required to bear the expense of moving its structures to get out of the way of public improvements. In Chapter XXX of this report, I have already described the taxes and street expenses incurred by the Cleveland company in 1918. In brief, the service-at-cost plan, as worked out in Cleveland, is intended to free the car riders from carrying any burdens that are not regarded as a legitimate part of the cost of transportation.

(7) On the basis of the recognized capital value and of the various elements going to make up the cost of service as above outlined, the Cleveland plan provides that the street railway system shall be self-sustaining through the application of a flexible fare schedule between certain prescribed minimum and maximum limits. Originally, the maximum fare that could be charged under the franchise was 4 cents cash and 7 tickets for 25 cents, with a penny for a transfer. Under the stress of war conditions the franchise was amended so as to provide as the maximum possible fare 6 cents cash and 9 tickets for 50 cents, with a penny for a transfer. The minimum fare remains as provided in the original plan, namely, 2 cents cash, with a penny for a transfer and a penny rebate upon the taking up of the transfer. Including these extremes, the Cleveland ordinance as amended prescribes 15 separate fare schedules which constitute a sliding scale that is automatically applied as the cost of service fluctuates from time to time. As a part of this automatic device, the plan provides for a special fund called the "interest fund," the amount of which was fixed at \$500,000 when the contract first went into effect in 1910. Into this fund are paid all of the earnings of the company in excess of the allowances for operation and maintenance, and out of the fund are paid the fixed return upon the capital value, taxes, and miscellaneous charges. As an accounting matter the fund is maintained on an accrual basis. Whenever the fund rises above \$700,000, that fact is a signal for a reduction of the fare to the schedule next below the schedule then in force, and whenever the fund sinks below \$300,000 that is a signal for an increase in the fare. The scheme for the adjustment of fares is not entirely inflexible, however, for if either the company or the city is of the opinion that the fare should be otherwise than as indicated by the amount in the interest fund, a different adjustment may be effected by agreement between the city and the company, or if they cannot agree, then by arbitration. But in any case, the rate fixed by arbitration may not exceed the maximum rate stipulated in the franchise.

(8) Under the Cleveland plan public supervision is exercised through a city street railroad commissioner appointed by the mayor with the approval of the city council, and subject to removal at any time by the mayor. The com-

missioner acts as the technical adviser of the council in all matters affecting the interpretation or application of the contract, and in all action under the terms of the contract affecting the quantity, the quality or the cost of service, or the rate of fare. In general, the city has the right to require extensions and to control the service, subject to the limitation that the company shall not be prevented by any city requirement with respect to service or extensions from earning the stipulated return upon its capital value, and in case of dispute as to the probable effect of a particular requirement the matter shall be determined by arbitration.

Under the Cleveland plan a great many different matters affecting the interpretation and application of the contract must be submitted to arbitration upon the demand of either the city or the company. Arbitration, therefore, becomes a very important feature of the plan, and the arbitration provisions of the contract are worked out with unusual care. The party demanding an arbitration must name its representative and give notice to the other party of the question upon which arbitration is demanded. Within ten days the other party must name its representative, and the two so selected shall, within ten days, select a third arbitrator, but in case the two are unable to agree within the time specified, then the third arbitrator, upon the application of either party, is to be appointed by the United States District Court judge for the district comprising the city of Cleveland. However, the party applying to the judge for the appointment of the third arbitrator must give five days' notice to the other party and must formulate the questions to be determined by the board of arbitration. Before making a final appointment, the judge is required to give three days' notice to both the city and the company of the person or persons being considered by him for the appointment, and either the city or the company may, within this period of three days, present objections to any person or persons under consideration. The board of arbitration is required to decide upon the question submitted to it within 30 days after the appointment of the third arbitrator, unless the board itself is unanimous in agreeing to an extension of time. The expenses of a board of arbitration, and the expenses of the city street railroad commissioner in his work of supervision over the company, are paid by the company and included in the cost of service. It is noteworthy that the Cleveland plan takes no cognizance whatever of state commission control. The actual jurisdiction of the Ohio Public Utilities Commission is limited, for practical purposes, to matters of capitalization, and apparently, in view of the detailed control exercised by the city over accounts and capital expenditures, the actual control of the state commission even in this field is little more than perfunctory.

(9) The Cleveland Railway system is not confined to the corporate limits of the City of Cleveland, but serves suburban municipalities having a considerable population. Nevertheless, the service-at-cost contract is in the form of an agreement between the railway company and the city. Indeed, the city's option to purchase the property at any time prior to the expiration of the franchise is conditioned upon its acquiring the entire system, both inside and outside of the city limits. If the franchise is permitted to expire and the city at that time is without authority to take over the suburban lines, it may then acquire that portion of the system lying within the city limits and may require the company

at the same time to convey to a licensee designated by the city the remainder of the system. The Cleveland franchise, however, does not supersede the company's contracts with the suburban municipalities, but the cost of suburban extensions and betterments is not to be included in capital value without the city's consent. As the municipality of East Cleveland is now surrounded on three sides by the City of Cleveland, the renewal of the Cleveland contract in effect in 1919 prescribes the rates of fare between points in the City of Cleveland and points in the City of East Cleveland, but otherwise the contract does not attempt to fix the schedule of fares to be charged by the company beyond the limits of the City of Cleveland. Thus it will be seen that in Cleveland the service-at-cost plan has been worked out on the basis of an arrangement between the central municipality and the operating company and, as Secretary Baker testified, no trouble has been experienced by reason of lack of cooperation between the city and the suburban communities.

The entire Cleveland plan is based upon the theory of cooperation between the company and the local authorities of the central municipality, and of the settlement of their differences by arbitration rather than by an appeal to a higher public authority such as a state commission or a court. The company's return upon its investment is definitely fixed and limited. As the board of arbitration in the seven-per-cent-return proceeding stated:

"The City does not guarantee the stock, * * * * but the franchise does protect the stock in a way equivalent in effect to a guaranty."

Under the Cleveland plan the public has control of service so long as it can be shown that the maximum rate of fare authorized by the contract will pay the cost of the service demanded. The city also has an absolute check upon expenditures for maintenance and renewals, and a general check upon capital expenditures. It has indirect control of operating expenses through the car mile allowance for operation subject, however, to the company's right of appeal to arbitration.

It is under this franchise that the Cleveland Railway Company went through the war "on easy street" and does not know "what a banker is" in its business, to use Mr. John J. Stanley's words. At the same time, Cleveland offers the spectacle of a great city in which it has been at no time necessary, even during the war period, to raise the fare above 5 cents cash, with a penny for a transfer.³ This rate went into effect August 4, 1918, but remained in effect for only 11 months. On July 5, 1919, the next lower rate provided by the ordinance which includes tickets at the rate of 11 for 50 cents, became effective, and on December 16, 1919, a further reduction of the fare took place through the sale of tickets at the rate of 6 for 25 cents. In May, 1920, following an increase in wages, the tickets were again abolished. The 5-cent cash fare and the penny transfer charge remain. Meanwhile, from June 1, 1919, to the close of the year, the wages of trainmen were 55 cents per hour for the first three months of employment, 58 cents for the next nine months, and 60 cents thereafter; the operating expense allowance was 23 cents per car mile for the entire period, and the maintenance allowance 10 cents per car mile from June to October, 9 cents per car mile in November, and 8 cents per car mile in December. It is worthy of note that from March 1, 1910, when the service-at-cost plan became effective, to

December 31, 1919, the fares changed nine times; the wages of trainmen changed six times; the operating-expense allowance changed nine times; and the maintenance-expense allowance changed twice. From March 1, 1910, to December 14, 1917, a period of nearly seven years, the fare was three cents cash, with a penny transfer. Part of the time the transfer charge was rebated as the transfers were taken up, and part of the time there was no rebate.

Secretary Baker, who as one of Tom L. Johnson's trusted lieutenants went through the long struggle that led up to the Cleveland settlement, and who was mayor of Cleveland for four years after the contract went into effect, described to the Commission at some length the origin and principal characteristics of the plan. At pages 1003 and 1004 of the Proceedings, Mr. Baker makes the following general comments upon it:

"There are two or three comments to be made about it. In the first place, it was a popular settlement, in the sense that the people of Cleveland understood it. I do not think it is possible for me to emphasize too strongly, so far as the expression of my own belief is concerned, the feeling that no street railroad settlement can be a successful one which is not understood in its details and approved by the people. It is one of the most intimate of their services, and they resent and distrust and suspect the management unless they understand.

"The whole theory of the Cleveland settlement was, first, that the people understood all that had gone on in the past, and all that was proposed to be done, and had a continuous means of information as to the state of affairs, by the inspection of the city street railroad commissioner's books and the publication at short intervals of reports from him.

"The city street railroad commissioner in Cleveland every month prints in the public newspapers the state of the interest fund, so that people can see whether it is going up or whether it is going down; whether there is soon going to be a change of fare up or down; and when the change comes, there is never the slightest question about it. The people have known, in advance, that they were approaching the period where the fare would go up or would go down, and it is accepted without the slightest hesitation or objection.

"The great thing accomplished, therefore, in the Cleveland settlement, was that it was accomplished with the intelligent and detailed comprehension and undertaking of the people of the city and the subsequent working of the ordinance has always been relatively easy because of the fullness of the disclosures made and the completeness of the information the public have on the subject.

"Perhaps the most striking defect in the ordinance is the thing you would rather have me point out than anything else, and that is the lack of stimulus to the operators to operate economically."

It is generally admitted that the valuation is the fundamental thing to be determined at the very threshold of service at cost. The relatively low valuation arrived at in Cleveland is in part responsible for the comparatively low cost of service there; yet it may not be amiss to take judicial notice of the fact that Mr. Peter Witt, another of Tom Johnson's lieutenants, and later on the city street railroad commissioner through Mayor Baker's two administrations, has recently been stating publicly that the reduction in the Cleveland Railway's capitalization had very little to do with the low fares. He points out that the interest on \$10,000,000 would add only one-fifth of a cent to the average fare in Cleveland on the basis of the present traffic. It is agreed, however, that the success of the Cleveland plan has resulted from the spirit of cooperation manifested by the public. The public belief that the capital value fixed in the contract was a fair measure of the true investment was undoubtedly an essential condition upon which the public good will was founded. This is made doubly clear by Secretary Baker's testimony at pages 1009 and 1010 of the Proceedings, where he describes how the Cleveland valuation was made:

"The Chairman: Then is the first fundamental proposition in all street car questions that we must know what the true value of the property is?"

"Secretary Baker: Absolutely. Absolutely and fundamentally.

"The Chairman: That precludes overcapitalization, and inspires confidence by the public in the integrity of the plan?

"Secretary Baker: Exactly.

"The Chairman: Was that valuation in Cleveland made by the state or by experts selected by the city as well as the company?

"Secretary Baker: It was made by experts selected by the city and the company, and they worked in pairs. The city had a track man and the railroad had a track man. The city had a car man and the railroad had a car man, and so on, with the power house men, etc.; and they worked in pairs. Whenever they agreed, their agreement was reported to Mr. Goff and Mr. Johnson, and I do not recall a single instance in which they rejected an agreement of the two valuers. Where there was disagreement, Mr. Goff and Mr. Johnson settled the disagreement in a public hearing.

"The Chairman: Do you think that method of valuation is as satisfactory as to have it done by a state commission?

"Secretary Baker: That is two questions in one. There are some state commissions that would do it very well, and there are some state commissions that would do it very badly, and there are some that would never get done. I made a calculation as to how long it would take the state commission of the State of Ohio to reach a case involving an electric light controversy which I had sent down there, and it was something like 140 years before they could get to it.

"The Chairman: But if the state commissions had their organizations so perfected that they could expeditiously value the physical property of the street car company, do you think it would be preferable, or—

"Secretary Baker: I do not think it would be nearly so good as the system we have.

"The Chairman: Why?

"Secretary Baker: As I said a moment ago, the street railroad is the most intimate service the people have in a city. I think it is so intimate that they regard it as their own, as distinguished from any state interests. I am inclined to think that there is a strong likelihood that a greater degree of confidence is inspired when the city itself does it than when the state does it.

"The Chairman: Do you feel that the value that was established in Cleveland is fairly representative of the true value of the property?

* * * * *

"Secretary Baker: Very accurately; very closely. As a matter of fact, there are two or three items of half a dozen million dollars in there which should never have been put in there, in my judgment; but those are differences of opinion. For instance, Judge Tayler * * * * * allowed the value of some paving which the company had done in return for the grants which were given it. I do not believe paving was ever an investment value of a street railroad in Ohio. I think it was a concession made to the public for the grant, but I do not think it was a capital investment or should ever have been so regarded.

"The Chairman: Does the valuation by the municipality in that way present the opportunity for municipal corruption?

"Secretary Baker: In the valuation?

"The Chairman: Yes; the company has something to sell the city, really, and it is interested in having the value upon as high a basis as it can get it?

"Secretary Baker: Oh, yes. It does present it; but it presents it no more than it does when the valuation is to be made by a state commission.

"The Chairman: Have you ever heard of any state commission that was subject to an influence of that kind?

"Secretary Baker: I never have heard of it; but they are all human beings, they are all men. If a company were to start out to corrupt a judge who was judging its property, it would not, in my opinion, make very much difference whether he was a state or a municipal officer. That work can only succeed when it is done by men of the highest character and capacity, of course."

With respect to the provision of the Cleveland plan by which the full reproduction cost of replacements is charged to maintenance, Mr. Baker says at page 1004 of the Proceedings:

"We were a little too hopeful about that ordinance in one aspect. We believed that the replacements could come out of the maintenance fund, and we did not make a sufficient apportionment of the replacement cost to capital account. Our effort was to keep the capital account down.

"I can illustrate what I mean by taking a single instance: If the company wanted to relay the rail on Woodland Avenue, let us assume that the rail was ten years old, and that at the time of the settlement its life was only a prospective three years more. Plainly, correctly, when that rail was relaid the three years of lifetime left it at the time of the settlement should have been paid out of maintenance, but the nine years of expired life in that rail

ought to have been paid out of new capital, because it was valued on the basis of its depreciated condition; and there ought to have been an addition of new capital in the new rail to the extent of nine to three. We did not do that. And, as a consequence, the maintenance fund of the company was constantly being called upon to bear altogether too high a contribution for replacements of property which was nearly worn out at the time of the settlement, and which rapidly wore out when it was in use under the settlement."

In the testimony just quoted, Mr. Baker apparently confuses two issues that are involved in the Cleveland replacement rule. It surely is perfectly proper, and indeed necessary if a gradual inflation of the capital account is to be avoided, that replacements should be charged to maintenance to the full amount of their cost new as carried in the original appraisal upon which the capital account was based. It is only by the continuous process of substituting new items of property for worn-out items as they are withdrawn from service that the average condition of the property as a whole can be maintained at the normal level for efficient operation, which in Cleveland is fixed at 70 per cent of "reproduction value." The items going to make up the depreciable property are all of the time wearing out or becoming inadequate or obsolete at varying rates. When the particular rail, to which Mr. Baker refers, that stood at 25 per cent condition in the original appraisal is replaced out of the maintenance fund by new rail at 100 per cent condition, this does not mean an increase in the value of the property as a whole, because other rail that stood at 100 per cent condition and 75 per cent condition and 50 per cent condition has in the meantime gone down 25 points, but is not yet ready for replacement because it is not entirely worn out. On the average, the new value injected into the property by replacements merely offsets the wear and tear on elements of the property not yet ready to be replaced. It is one of the merits of the Cleveland franchise, as contrasted with the Chicago settlement franchises of 1907, that the former by the very provision which Mr. Baker criticises prevents the gradual deterioration of the property as compared with its recognized capital value, while in Chicago where replacements are charged to maintenance only to the extent of the depreciated value of the items replaced as set forth in the original appraisal, the process of "watering" the capital value is going on all the time by putting back into it the equivalent of the accrued depreciation that was originally taken out. The real trouble with the Cleveland replacement provision is that it charges to maintenance the full present cost of reproducing the worn-out article, even though this may be double or treble the original cost new of the article. Thus, the Cleveland replacement provision prevents the gradual readjustment of the capital account to the higher price level now prevailing, and puts upon the farepayers as a part of the current cost of service the burden of substituting high-priced materials and labor for low-priced materials and labor in the construction account. Some considerations of prudence and conservatism may be advanced in favor of this rule, especially where something is needed to offset neglect of amortization of dead capital and accruing depreciation on new property under other provisions of the plan, but standing by itself and judged from the accounting standpoint the rule is undoubtedly indefensible.

It will be recalled that Mr. Baker referred to "the lack of stimulus to the operators to operate economically" as the most striking defect of the Cleveland ordinance. In elaborating this point at page 1005 of the Proceedings, he says:

"We faced, at the outset, the problem of the complete control of the service and of the property in the interest of the public, which you see is reserved in this ordinance, because the company can practically do nothing without the consent of the council; and the alternative plan, which we knew as the Boston gas plan, of an increasing return on the capital invested as an inducement to economical operation.

"We all put our heads to it, and we all tried to find some way to combine those two things; but it seemed illogical, when the city had complete control of operation and there was nothing left for stimulus to the management to do. So we put in a flat rate of return on the capital at 6 per cent.

"I think that was a mistake. I think there ought to have been a provision that the company should have 6½ per cent as long as it continued to make enough money to operate a 3-cent fare flat, and that it should lose a half of 1 per cent upon its capital return when it had to charge an extra cent for a transfer, and that it should lose another quarter of a per cent when it had to go to the next higher, and that its rate of return should be based upon the fare which they were able to maintain. If there had been that inducement to the management to thrift and providence and economy, I think it would have been a better plan."

Still, Mr. Baker is by no means sure of the results that would follow from the adoption of his sliding scale suggestion, as is shown by his further testimony at pages 1014 and 1015 of the Proceedings:

"The Chairman: You have discussed the question of efficiency of service under your plan, and you admitted that there was one defect in your contract?"

"Secretary Baker: I think there are a good many. That is the chief one.

"The Chairman: That was the chief defect?"

"Secretary Baker: Yes.

"The Chairman: Do you believe that would be taken care of entirely by the provision which you suggested, of having a reduced return on capital as the rate of fare goes up?"

"Secretary Baker: I am not sure. We thought about that a very great deal, and found it so difficult a problem that we left it unsolved, as you see.

"The Chairman: I can see where that might operate very effectively upon the owner of the stock, and perhaps the officers of the corporation, but how is that going to influence, at all, the conduct of the employes?"

"Secretary Baker: I do not know that it can, unless it stimulates in the management a cooperative spirit which will find its response in the operator.

"The Chairman: So that it must work from the top down?"

"Secretary Baker: I should think so.

"The Chairman: Is there any way that you can work out a plan by which you can get the real initiative and efficiency throughout the whole personnel of the company?"

"Secretary Baker: I have no plan in my mind."

Mr. Baker is strongly of the opinion that the street car question must be settled locally, on the basis of complete cooperation between the city and the company and complete public knowledge of all the facts. At page 1011 of the Proceedings, we find the following question and answer:

"The Chairman: From your study of the street railway question, do you feel that the Cleveland plan could be safely adopted in many of the communities of the country?"

"Secretary Baker: In such communities of the country as were ready to study it and understand it and give it their real approval, it would be a very great advantage; but any momentary fascination with the Cleveland plan which led to its adoption without a fundamental appreciation of it and determination to stand by it and see it work would, of course, be inadvisable."

Further along, in response to questions by Commissioner Sweet, Mr. Baker describes in some detail the picturesque background of popular education that made the Cleveland settlement possible. At pages 1016 to 1018, we get the story:

"Commissioner Sweet: * * * * Can you not suggest some way, as the result of your interest and study of this subject in Cleveland, by which the cities in general could be helped in solving this problem?"

"Secretary Baker: Well, so far as my own experience is concerned, Mr. Sweet, I think that the only solution that will be permanently helpful will be one which the cities will work out with the companies themselves.

"If I were asked to advise Philadelphia or Pittsburgh or Chicago or New York or any other city about the solution of its street railroad problem, I would say, 'Get the Council and

the Board of Directors in the same room, with all the facts and all the figures, and let everybody in the community understand what they are.' I believe that any community in America will pay cheerfully and willingly whatever rate of fare is necessary to carry people on their street railroads and to maintain good service in their communities, if they are sure that they are paying only proper operating expenses, proper maintenance and a proper return on capital. As soon as they are sure of that, I believe that any community in America will pay whatever rate of fare is necessary.

"Commissioner Sweet: You lay great stress upon the education of the people?"

"Secretary Baker: Undoubtedly, sir. * * * * Mr. Frank Walsh, of Kansas City, came to see me once when I was City Solicitor of Cleveland, and said that Mr. Johnson had sent him to me to learn something about our Cleveland street railroad situation.

"I said to him: 'I am going to court at this moment, and I cannot see you until I get back; but if, in the meantime, you will go down to the Public Square and pick out the most unlikely looking citizen on a bench there, and ask him about it, and then come back to me after that, I will tell you what he has not told you.'

"When I got back from court, Mr. Walsh came in and said: 'I don't think there is anything you can add to what he has told me. I picked up a fellow with a broken hat and worn-out looking shoes and of a generally unpromising aspect, and asked him about the Cleveland street railroad situation, and he told me its history from the beginning until now. I even know the nicknames by which the officers of the companies are called.'

"He said that he thought I could add nothing to the information that had been given to him; that that man was able to discuss even the legal questions, and what the courts had decided in the fifty-one injunction suits.

"Commissioner Sweet: That was simply because, starting in a fight that interested the people, and progressing along with referendum votes that the people had to express themselves on, and the various steps, the people had become thoroughly familiar with all angles of the subject?"

"Secretary Baker: Yes. Mr. Johnson had a circus tent—two of them, in fact—and he used to take this tent around over the city and put it on vacant lots, and Peter Witt, who is now a street railroad expert, had to make a speech about forty minutes long on the general problem of street railroads, and then, as city solicitor, I spoke generally about an hour, discussing the legal aspects of it, and the latest decisions of the courts, as to why the courts decided it that way, and what our adversaries said and what we said on the legal questions, and then Mr. Johnson would end with about thirty minutes answering questions from anybody on any subject—whether on the subject of street railroads, or not; any question that anybody wanted to ask him.

"That went on for weeks and months and years, and as a consequence everybody in Cleveland went, and became familiar with these matters. The women went with their baby coaches, and pushed them up in the vacant space in front of the platform, and left the babies there while they sat back and asked Tom questions."

In connection with the get-together policy recommended by Secretary Baker, attention should be called to the fact that in Cleveland when the opposing forces did finally get together it was not found necessary to wipe out more than 45 per cent of the common stock of the street railway company. In many cities, there can be no doubt whatever that a conservative valuation on the basis arrived at in Cleveland would wipe out all the common stock, and perhaps even make a deep cut into preferred stock and bonds. Where such a condition prevails, it is obviously impossible for the city and the company to "get together" except through a receiver or after a complete reorganization. This has an important bearing upon the ability of other communities to follow Secretary Baker's advice. Another question as to the potential efficacy of the Cleveland plan is raised in connection with the still increasing cost of service, particularly with respect to wages, that has already boosted the fares in Cleveland beyond the upper limits contemplated when the ordinance was originally drafted, and that in the future, particularly if wages keep on going up, may drive the fares even beyond the limits now prescribed in the Cleveland ordinance as amended to meet war conditions. Secretary Baker's optimism is not great enough to cover, without misgivings, an increase in the unit fare above five cents, as will appear from his testimony at pages 1024 and 1025 of the Proceedings:

"Commissioner Sweet: Do you think that if other cities had gone through the same process of education and the public felt the same way about it and had adopted the same plan, you would get the same results in other cities?"

"Secretary Baker: I should think so, Mr. Sweet. It just occurs to me, take the Cleveland situation. As the price of wages went up and of materials, the rate went up in Cleveland so that there was a constant attempt on the part of the rate to assimilate itself to the needs of the company. They finally got to the place where the maximum rate permissible under the ordinance was not enough and they went to the Council and told them so and the Council said, 'We realize that on the figures you have presented,' and they authorized a higher rate temporarily than the ordinance permitted. In other cities they had adjusted their operations to a fixed rate of fare and could not get anywhere at all as the increase went on in their operating expenses, and their catastrophes and calamities have been precipitated until they all came at one time, while Cleveland simply had the little hump at the top of the hill where it had to pass over, where its highest rate of fare would not pay operating expenses.

"Commissioner Sweet: If it should be necessary in the course of the next year or so—we do not know what is ahead of us—to go higher and higher, would you from your knowledge of the situation in Cleveland and the balance of the country judge that the point of highest revenue would be at a higher point of fare in Cleveland? In other words, that the people of the community would be satisfied with paying a higher fare if it was necessary to do so without any resentment such as is felt in an ordinary community?"

"Secretary Baker: They are perfectly satisfied, they will pay whatever is necessary to carry them where they want to go, because they know they are only paying a stipulated return and stipulated wages. But I do not believe personally that a rate of fare higher than 5 cents is economically justifiable; that is, I do not think it is the point of maximum return if you charge anything more than 5 cents. When people have to break a 10-cent piece to pay the fare they move to a place nearer their work so they will not have to pay it."

With respect to any essential differences between the Cleveland plan and municipal ownership, Mr. Baker's opinion is found at pages 1010 and 1011 of the Proceedings:

"The Chairman: What is the real difference between the Cleveland plan and municipal ownership and operation? I understand what the technical difference is, but in its broad aspect as to service and efficiency and rates, what is the difference?"

"Secretary Baker: I do not think there is any very substantial difference. I think that all of the operating advantages of municipal ownership are gotten by that plan.

"Mr. Warren: There is no recourse to the tax levy, is there?"

"Secretary Baker: None.

* * * * *

"If there is a deficiency of earnings, there is no way to make the tax payers pay it.

"Commissioner Sweet: And under municipal ownership there would be?"

"Secretary Baker: Undoubtedly."

And so it appears that in Secretary Baker's opinion the Cleveland plan gives to the riding public all the advantages of municipal ownership and operation but leaves the investors without the recourse to the tax levy which, under municipal ownership, would be possible as an ultimate guaranty that interest charges will be paid; apparently, Mr. Baker does not believe in subsidizing the car riders under any plan of operation, as will appear from his testimony at page 1027 of the Proceedings:

"Commissioner Meeker: You think under certain circumstances it would be justifiable to support the street railways through taxation—"

"Secretary Baker: No, I do not think so.

"Commissioner Meeker: If they cannot earn sufficient revenue to pay the current wages and the price of materials and a reasonable return upon the capital investment you would have the lines discontinued?"

"Secretary Baker: Yes.

"Commissioner Meeker: You would apply that to Boston with—"

"Secretary Baker: I would apply it anywhere.

"Commissioner Meeker: With ruthlessness?"

"Secretary Baker: I do not believe in taxing the people of Boston to let some people ride on street cars. People who get the service from the street cars pay for the service they get, and if there are not enough of them who want the service to justify its continuance, it ought to be discontinued."

The present City Street Railroad Commissioner of Cleveland, Mr. Fielder Sanders, gave the Commission the benefit of the conclusions reached by him as a result of his experience in the administration of the Cleveland contract. At page 1458 of the Proceedings, he says:

"The plan has undoubtedly, in my judgment, been a success from the company standpoint. I think that is undisputed. The stockholders are amply protected. They have secured their 6 per cent dividends, when the company was losing money in 1917 and 1918. The franchise is practically, so far as the constitution of Ohio allows, a flat guaranty."

He expresses the opinion that the property has been built up under the service-at-cost contract until it is "the finest surface line in the country." At page 1458, he describes the advantages which the public has derived from the plan:

"It has been, I will be frank to say, very largely a success from the public standpoint.

"In the first place, building up this very fine property has been a good thing for the car riders, because the finer the property the better the equipment, the better the cars, the faster the service, and so forth, the more satisfied the people are, naturally.

"The service has been good. It has been criticised in spots, but generally speaking the Cleveland service is considered to be very good.

"The fare has been uniformly low. There is no question about that."

Mr. Sanders ascribes the success of the plan to the comparatively low valuation, to the company's exemption from extraordinary taxes and miscellaneous public charges, to the development of the latest ideas in operation; the favorable topographical conditions that obtain in Cleveland; the relative shortness of the average ride; and more than everything else, to the confidence of the public in the operation. At pages 1459 and 1460 of the Proceedings, he says:

"I think that the real secret of the success of the plan is that it has the support of the people. Everybody turns in in Cleveland and helps to operate this railroad. There is not any knocking, there is not any criticism, there is not any holding back by the people. They ride on the cars and pay their fares cheerfully because they think, as I say, that this line is not only operated at cost but a large number of them think it is operated by the city."

Mr. Sanders points out two serious disadvantages of the plan which have developed in recent years, namely, the city's inadequate control over extensions and the city's lack of authority to deal directly with the labor problem. He describes these difficulties at pages 1460 and 1461 of the Proceedings, as follows:

"The disadvantages are two. In the last two or three years there have been two glaring things happened to this franchise which are disadvantages. One of them is what happens to all private operation and ownership, namely, a reluctance to extend the lines, in other words, a closeness of figuring in building new extensions. That fact obtains under the Cleveland grant almost as strongly as it does under purely private ownership and operation without any public control.

"The Chairman: Why should that reluctance exist, when the capital is guaranteed in its return?

"Mr. Sanders: For this reason: The franchise provides that the city may not require any extensions to be built which will impair their security, which will impair their ability to earn 6 per cent. And in the last two years, not quite so much now as it was in the last two years, but in the last two years they have refused to build extension after extension because of the fact that they were not quite sure of their security. I am of the opinion that it is an absolute guaranty, but that reluctance to build extensions obtains under the Taylor grant as well as under private operation.

"But the second fault is a more serious one than that. We could get past that. The second fault is the labor trouble which is as inherent in this as in a private franchise. In other words, this company controls its own operation. All the city does is to regulate. The city does not operate. The city has no more control of Mr. Stanley's motormen and conductors than this Commission has. He hires men and discharges them. He pays them such wages as he sees fit. In case of labor disputes the City of Cleveland is practically helpless. The City of Cleveland and the car riders, although they are the people who lose and not the stockholders of the company, are the innocent bystanders.

"The Chairman: Has the city any veto over the wage allowance?"

"Mr. Sanders: The city has a veto over the wage allowance to this extent, that it can refuse to give the company the money to pay wages with, and then in that case the question must be arbitrated; but the city cannot compel the company to pay the wages that the city thinks it ought to pay. In other words, the company fixes its own wages."

With respect to the suggestion that the Cleveland plan be amended so as to provide a sliding scale in rate of return upon capital for the purpose of encouraging the management to be economical, Mr. Sanders testifies as follows at page 1463:

"The Chairman: It has been suggested that it might be amended by adding in the contract that as the rate of fare goes down the rate of return goes up. What do you think about that?"

"Mr. Sanders: Six months ago I was very much in favor of that. Academically that is a very good thing, but practically I do not believe it will work. I have commenced to change my mind on that.

"The Chairman: Why?"

"Mr. Sanders: In the first place the street railroad settlement, a franchise, must be founded on popular approval. The fixed rate of return has popular approval, the people like it. They know what they are getting. If there is a sliding scale of return they do not know what they are getting. There is always suspicion that the operators of the railroads are getting something out of it which will detract from the proper operation. That is a political reason, it may be good or bad, but as a public officer it strikes me as a good reason.

"In the second place, there is always a tendency with the operators with a sliding scale to skimp the property and not render to the riders what they are entitled to. In a corporation the size of the Cleveland Railway, which spends \$2,500,000 to \$3,000,000 a year in maintenance, 1 per cent on its stock, which would be \$300,0000, could be lost sight of in that maintenance. It would be an easy matter to skimp that property \$300,000 a year and get that extra per cent, but in the long run the car riders would pay for it.

"In the third place, I do not believe a dividend to the stockholders, if you will grant that you need the incentive, would get your reaction. You ought to give a dividend to the operators. They are the people that make for efficiency; it is not the stockholders. Now, if the salaries of the operators, if the president, general manager and the head of the maintenance department have their salaries raised dependent on how much they save out of their allowance, I can see how some results could be obtained."

Mr. Sanders concludes his testimony at pages 1464 and 1465 of the Proceedings by suggesting municipal operation as the cure for the weaknesses which the Cleveland plan has developed:

"Notwithstanding the fact that this plan has worked fairly well there is a great deal of talk of municipal ownership in Cleveland, but it is not because of antagonism to the company; they are satisfied with the company; but because the people there think it is a step forward, they think some of the defects of this plan can be cured by municipal ownership and operation, whether it is municipal ownership or only municipal operation. I have been quoted myself many times, and I am still of the opinion that municipal operation would cure this labor trouble defect I have mentioned and also make the extensions possible. I am a firm believer that the people ought to get exactly what they want and are willing to pay for.

"The Chairman: Do you believe as a matter of fact that municipal operation in Cleveland would give you better results and cheaper service than you are getting now?"

"Mr. Sanders: I would not say it would be cheaper service. The people of Cleveland might be willing to pay more for service if the service were extended out into the country. They might cheerfully pay a higher rate of fare. I do not know. I do not say it would be. I do not think it would be any more expensive, but I would not undertake to say that a lot of money would be saved, because municipal bonds are pretty nearly on a 6 per cent basis now."

On behalf of the Cleveland Railway Company certain modifications of the franchise have been suggested. Chief among them are (1) the entire removal of the maximum fare limitation; (2) the establishment of an amortization fund to take care of the dead capital that would not be an asset to the company if the value of its property were being fixed without regard to the provisions of the ordinance, and (3) a depreciation reserve for the new investment. One of the

provisions of the plan as it now stands is to the effect that if the city fails to renew the grant, so that at any time it comes within fifteen years of expiration, the company shall have the right to assume control of service and charge the maximum rate of fare stipulated in the ordinance. The idea is that under those conditions the company shall have the right to protect its security holders by providing for the amortization of the capital account out of the earnings in excess of the cost of service, and in that case, in the event of acquisition by the city, the purchase price will be diminished by the amount of the amortization that has taken place. The Board of Arbitration in the seven-per-cent-return proceeding found by unanimous vote that this provision of the contract would "probably afford the company, even under the present high cost of operation, sufficient earnings to liquidate the entire capitalization" during the fifteen-year period. Yet, the arbitrators found that "the natural tendency to consider the Cleveland Railway Company merely as a public utility and to put it in the class with other public utilities which have failed to give either service or profit, and to discredit any enterprise which is in part politically controlled, becomes a burden and handicap to the company in time of stress when financial conditions are disturbed." For this reason, the arbitrators recommended the setting up of a reserve fund at a rate of not less than \$300,000 a year, to be held in trust for not less than ten years, and at the end of each ten-year period, to be used in the event of the renewal of the franchise for betterments and extensions without any increase of capital value; and otherwise to be held for the liquidation of the stock at the termination of the grant.

The company's demand that the maximum fare limitation be entirely removed has been refused by the city. The reasons for this refusal are set forth in a statement by the city street railroad commissioner quoted at length in the company's annual report for 1919. Briefly, these reasons are: (1) that if the maximum limit were removed, there would be no machinery left to control the company's charges during the last fifteen years of the franchise period in case the city at any time should fail or refuse to renew the grant at the ten-year interval; (2) the six-cent maximum now provided by the ordinance is thought to be sufficient to meet all the company's requirements on the present scale of expenses; and (3) if costs should go up still further, some other plan besides fare increases would have to be devised to meet them, because it is believed that the people of Cleveland would refuse to ride rather than pay a fare higher than six cents.

With respect to the company's demand for a depreciation reserve, it is to be noted that the Board of Arbitration in the seven-per-cent-return proceeding unanimously recommended a modification of the ordinance by the substitution of "capital value" for "reproduction value" in the section requiring the maintenance of the entire property at 70 per cent of its reproduction value. Apparently, this change would mean that the 70 per cent would apply not to the existing physical property alone, but to the entire capital value including the items of dead investment or intangibles to which reference has already been made. On the other hand, this provision would change the standard of maintenance, so far as concerns the physical property in existence on March 1, 1910, as replaced

from time to time, from 70 per cent of cost new to 70 per cent of depreciated value, or in other words, 70 per cent of 70 per cent. Apparently, the change suggested would introduce other confusions in place of those that now exist.

From the point of view of service at cost and ultimate public ownership, it is most essential that the full cost of service be paid as we go along, and that the capital value should be kept down to a conservative figure and that any elements of dead investment or intangible values be worked out as soon as possible through the process of amortization. While the original Cleveland valuation is frequently referred to as "conservative" or "low," both the company and the city admit that it still contains elements amounting to approximately seven million dollars that never should have been permanently capitalized. This is in a total present capital value of \$34,218,500. In connection with the seven-per-cent arbitration proceeding, I wrote the city street railroad commissioner under date of October 3, 1919, as follows:

"I think undoubtedly that an increase in the rate of return upon the capital stock can be postponed for the present if the arbitrators can be induced not to cross a bridge before they get to it, but if conditions require the expenditure of the amount of money suggested by the company for extensions and improvements during the next ten years, and if the city gives its assent to this ambitious program, I would say that in all likelihood, unless financial conditions settle down and street railways generally come into better repute, it will be necessary, before any considerable part of the program of improvements is undertaken, to modify the Tayler franchise in one of two directions: either to increase the interest rate on stock or the allowed interest rate on bonds, and thus give the company's securities an increased speculative value; or else to modify the ordinance so as to give them a better guaranty of receiving the fixed rate of return now provided for. In choosing between these two courses of action, if one or the other of them becomes necessary, it does not seem to me that the city should hesitate for a moment. An additional one per cent in the annual return upon the investment will do nobody any good but the investor. The car riders will have to pay the interest as the years go by, and when the city undertakes to purchase the property it will have to pay the full amount of the capital value, receiving therefor the physical property, as to the condition and value of which in relation to capital value there is now so much dispute. If, on the other hand, the equivalent of the additional one per cent on the stock, or some other amount, were to be put into an amortization or sinking fund for the reduction of capital, it would serve the double purpose of adding to the security of the investors and of reducing the ultimate purchase price of the property to the city. There can be no doubt that from the point of view of sound street railway finance and sound public policy all elements in the capital account which do not represent property ought to be amortized out of earnings, since they cannot now very well be cancelled, having been agreed to in the Tayler settlement."

As I have said, the Board of Arbitration was unanimous in recommending an amortization reserve, but the majority of the board also recommended a seven per cent return. By these combined recommendations, the investor's position would be doubly strengthened and the immediate cost of the service would be doubly increased. But both of these additional charges, taken together, would mean only one-fifth of a cent more per revenue passenger.

In Chapter XI of this report, where the discussion related to the failure of the electric railways to amortize the normal accrued depreciation, I called attention to the testimony of Mr. James D. Mortimer, which appears at pages 1970 to 1998 of the Proceedings, where he attempts to show that "service at cost" in Cleveland has been service at less than cost. That there may be something in Mr. Mortimer's contention is apparent from the discussion we have just had, but as pointed out in the earlier chapter, Mr. Mortimer's criticism implies that the car riders of Cleveland, under the service-at-cost franchise, should have been

called upon to make up to the company the previously accrued depreciation that was cut out of capital account at the time of the settlement. This raises a very important issue that confronts a city or a regulatory commission whenever the value of a street railway property is being fixed for the first time, whether as a basis for a service-at-cost contract or merely for purposes of regulation. Is it an essential part of the present and future cost of service under a new deal to make up to the investors the previously accrued depreciation of their property for which they have failed to make specific provision out of their past earnings?

The new Montreal contract, which has now been in operation for two years, represents in many important respects a radically different type of service-at-cost franchise from the Cleveland ordinance which we have been discussing. First of all, it is very different in its origin. The Cleveland arrangement came as the result of a 10-year fight between the city and the street railway company; their differences being finally threshed out between themselves and a settlement arrived at without the interference of the state. Moreover, the Tayler plan went into effect only after it had been submitted to the voters of Cleveland and received their approval. As we have seen, it is based entirely upon the theory that street railway transportation is a local problem, to be worked out between the operating company and the public representatives of the car riders. The development in Montreal was very different. The old contract between the City of Montreal and the Montreal Street Railway Company ran for a period of 30 years from 1892 and reserved to the city the right, at its expiration in 1922, to take over the property at an appraised valuation. This franchise, prior to the commencement of the European War, proved to be very profitable. As the end of the franchise period approached, however, the usual disagreements that occur before the expiration of limited-term franchises developed between the city and the company, particularly with respect to extensions which the company alleged that it could not finance without a renewal of its franchise. The company was especially anxious to get away from the city's option to purchase, which would become effective in 1922. As early as 1911, the Montreal Tramways Company secured a charter from the Quebec legislature, running for a period of 42 years, together with a franchise to acquire, maintain and operate tramways in the City of Montreal. The exercise of this franchise was conditioned, however, upon the company's making a contract with the city to determine the duration of the grant and the conditions of operation, maintenance, equipment, establishment and extension of routes in the city, rates of fare, percentages of gross earnings to be paid the city, the share of the cost of paving and maintaining the streets and of removing snow to be paid by the company and such other terms and conditions as the city might deem it advisable to impose. The new company acquired the existing street railway property, overcapitalized itself in true American style and proceeded to negotiate with the city authorities for a new franchise.

These negotiations, running through a period of several years, led to public scandal, but not to franchise progress, and the legislature in 1917 took the matter entirely out of the hands of the City of Montreal and appointed a special commission of five members, residents of the metropolitan area, to draw up the contract between the city and the company. The commission was authorized to

"employ experts and any other persons" whose services it might deem necessary or useful in the performance of its work, and it was authorized to inquire into the facts over which its jurisdiction extended, "by all means suitable for enlightening it." The contract was to come into force, after being signed by the commission or by a majority of its members, on the day that it should be signed by the Tramways company. This contract was to bind the company and the city for a period of 36 years, except as it might be changed from time to time by mutual consent of the parties. At the end of the 36 years or at the expiration of any subsequent period of five years, the city was to have the right upon due notice "to appropriate for itself the railway of the said company as well as the immovables and dependencies, plant and cars belonging to it and necessary for the operation of the said railway, by paying the value thereof to be fixed by arbitrators and 10 per cent over and above the estimate."

It will be seen from the above that the Tramways Commission was vested with extraordinary powers. It was not required to consult the civic authorities or the people of Montreal with respect to the terms of the contract to be drafted by it and was not even required to give public hearings for the purpose of receiving suggestions and criticisms. Its powers were limited only by the provisions of the statute and by the necessity of securing the Tramways Company's approval of its work.

As to the statutory limitations, they were few but important. Through an apparent oversight the act did not confer upon the commission any power to bind the municipalities served by the company other than the City of Montreal. However, the commission, as soon as it had studied the problem, saw the necessity of dealing with the metropolitan district as a whole and prepared the contract on this basis. Its action was validated by the subsequent ratification of the contract itself by the legislature.

The two other limitations imposed by the statute were not to be overcome in this easy fashion, as the company was interested in maintaining them. One arose from the provision of the act extending the company's franchise until 1953, and postponing the city's existing option to acquire the property by purchase from 1922 until that date. This made it impossible for the commission to condition the continuance of the contract upon the good behavior of the company or upon its maintenance of amicable relations with the city. It placed the company in a position where it would have an assured, irrevocable franchise for a period of 36 years, and where any means adopted to secure adequate service at reasonable rates during that period would have to be independent of possible recourse to municipal ownership and operation.

The third limitation prevented the commission from establishing the value of the property at the present time as a basis for future purchase by the city, and consequently prevented it from adopting any amortization scheme for the gradual reduction of the purchase price out of earnings.

Thus the commission's problem was reduced to the devising of ways and means by which satisfactory service and reasonable rates could be secured to the public during a period of 36 years under private ownership and management. There was nothing in the act which required the commission to prepare a contract

that the company would accept, but it was well understood in Montreal that the purpose of the Tramway's Commission Act was to facilitate the settlement of the relations between the city and the company by the preparation of a contract that the company would accept and that would complete and bring into effect the provisions of the company's charter granted in 1911 and of the act itself extending the company's franchise to 1953.

Early in 1917, shortly after the commission was organized, it held a series of public hearings for the purpose of receiving the suggestions of the civic authorities and various civic organizations and individual citizens. It employed an electrical engineer, a professor in McGill University, as its technical adviser. After its public hearings were closed the commission made a trip to Chicago, Cleveland and other American cities for the purpose of investigating street railway conditions in this country. Subsequently, it caused a quick valuation of the Montreal Tramways property to be made, and prepared a contract which after some negotiation with the company was accepted and signed by both parties January 28, 1918, and ratified by the legislature as a part of the Montreal city bill on February 9 following.

The people of Montreal and the suburban communities were not taken into the confidence of the commission, and the terms of the new contract were not published until after the contract was signed. In fact, the ratification act was rushed through the legislature before copies of the contract in English were available to the Montreal public.

The new contract applies in all important respects to the entire area served by the company's system, and all provisions of the old municipal contracts inconsistent with it are superseded by its provisions. For the administration of the contract and for the exercise of permanent supervision over the company, a permanent Tramways Commission is established consisting of three members appointed by the lieutenant-governor in council, that is to say, by the provincial authorities. The commissioners are required to reside in the territory under their control. They are appointed for a term of 10 years but may be dismissed for cause at any time by the appointing power. Both the City of Montreal and the company also have the right to apply to the superior court for the dismissal of any commissioner for fraud, bribery, or refusal or neglect to carry out in good faith the powers or to perform the duties assigned him by the contract. This commission is given complete authority over extensions, maintenance, service and all the vital features of construction and operation, subject to the limitations of the contract itself and subject to an appeal from its decisions in most of the important matters over which it has control to the Quebec Public Utilities Commission. The appeal may be taken by the company or by the City of Montreal, or by any interested municipality or by any party to the matter at issue. The commission is specifically required to hear and decide all complaints or applications made to it verbally or in writing by any person whomsoever.

Article 92 contains the meat of the contract. It was prepared by a committee consisting of Senator Charles P. Beaubien of Outremont and Charles Laurendeau, Chief City Attorney of Montreal. In the course of their work they became familiar with the weak points in the Chicago and Cleveland settlements, and

it was their purpose to devise, if possible, a plan based upon the service-at-cost idea that would provide inducements to the company to work in the public interest. They started out by accepting the theory that the character and extent of service, the financial requirements of the investment, the necessary operating expenses and payments to the city must first be determined, and that rates must then be fixed so as to bring in the revenue required for these purposes. They made note of the fact that under the Cleveland franchise the fluctuations of rates cannot go beyond the limits of certain prescribed schedules and that the rate of return on the investment is definitely fixed so that the company's motive for economy and efficiency in operation as a means of earning additional profit is destroyed. They deemed these provisions of the Cleveland scheme to be defects, and determined not to copy them.

Under the terms of section 92 of the new contract, the Tramways Company is required to provide out of its own resources a guaranty fund of \$500,000 which is to be maintained continuously at this full amount and is to be deposited so as to remain available at all times for the purposes for which it is created.

Gross revenues can be disposed of only in the manner prescribed by the contract. Operating expenses, naturally, have the first call, and in order to keep the company's expenditures under control and to supply an inducement for economy and efficiency in operation the following plan was adopted: At the beginning of each year the Tramways Commission is to establish an allowance per car mile for operating expenses. This allowance will include provision for taxes, for the expenses of the commission itself, for insurance, for accident and damage claims including a reserve for claims not liquidated during the year, and for all other operating expenses exclusive of maintenance, renewals and depreciation. The commission is also to fix at the beginning of each year the permissible average density of traffic per car mile, so as to prevent the company from overcrowding its cars. If at the end of the year the company has kept within its operating allowance, or has not exceeded it more than $2\frac{1}{2}$ per cent, it will be entitled to a special bonus to be known as the operating profit which shall be equivalent to one-eighth of 1 per cent on the total average capital value for the year. At the present time this amounts to about \$47,500 per annum. If, on the other hand, the company has overspent its operating allowance more than $2\frac{1}{2}$ per cent, it will be penalized to the extent of such excess expenditures by the loss of the operating profit and, if necessary, by being compelled to make up the balance of the excess expenditure out of its own guaranty fund. It is recognized, however, that an inflexible operating allowance fixed at the beginning of a year may prove to be insufficient on account of conditions arising that could not be foreseen at the time when it was fixed. It is stipulated, therefore, that in case the company is able to prove to the satisfaction of the commission within 60 days after the close of the year that the excess expenditure has been necessary and unavoidable in the rendition of service as required by the commission, the penalty is to be remitted and the operating bonus allowed. Any portion of the operating allowance not needed during the year is to be returned to gross revenues.

The next charge against gross revenues is for the maintenance and renewals fund. There, also, the commission is to fix annually an allowance per car mile

"for the purpose of maintenance, renewals, replacements and substitution made necessary by wear and tear, age, obsolescence, inadequacy, accidents or other cause." The entire plant and property of the company used in providing public transportation service must be maintained at all times at the highest practicable standard of operating efficiency. Whenever any item of property contained in the appraisal or subsequently added to the tramways system becomes worn out or useless, it is to be disposed of under the commission's direction and the proceeds are to be paid into the maintenance and renewals fund, unless other disposition of such proceeds is made necessary by the provisions of any deed of trust, and in that case the proceeds must be deducted from capital value. An exception is made in the case of moneys received from the sale of land and buildings, which are in all cases to be deducted from capital value and not to form a part of the fund. All expenses for maintenance, renewals, replacements and substitutions are to be paid out of this fund, and moneys not needed for these purposes during any year remain in the fund and are held in reserve until required for such purposes or for investment in betterments, additions and extensions as elsewhere provided in the contract. Whenever any portion of the property is replaced, the cost of the replacement up to the full reproduction value of the unit or article as fixed by the appraisal (or the actual cost, in the case of items installed subsequent to the appraisal), is to be paid out of the fund and any cost in excess of that amount is to be charged to capital. If the cost of any replacement is less than the reproduction cost (or the actual cost, as the case may be) of the item replaced, the difference is to be appropriated from the fund from time to time for the making of betterments, additions and extensions without any increase in capital value. The commission may change the maintenance allowance from year to year, but the fund is not to be permitted, except temporarily, to fall below the sum of \$500,000. No money can be paid out of this fund, or loaned or invested, except with the commission's approval. If the city acquires the plant at the termination of the contract, the maintenance and renewal fund will belong to the city and will not be added to the purchase price of the property.

The third charge upon gross revenues is the return upon capital. The amount of the investment, exclusive of working capital, is fixed at \$36,286,295 as of December 31, 1917. This figure represents reproduction-cost new as of July 1, 1917, without depreciation, except that in the bargain the company was induced to "throw in" certain new equipment added during the second half of 1917 at a cost of \$896,848, and this amount may be regarded as a partial offset to accrued depreciation or overhead charges included in the appraisal. Working capital has since been fixed at \$1,550,000. The net amount of additions and betterments made subsequent to January 1, 1918, will be added to capital value. The company is permitted to receive in quarterly payments from gross revenues a sum equal to 6 per cent on capital value. From time to time as new money is required for additions, betterments and extensions approved by the commission, such money must be supplied by the company, and the money so supplied will be added to capital value and the company will be entitled to an annual return of 6 per cent upon it, but when money is needed for these purposes, the company must borrow temporarily moneys in the maintenance and renewals fund, or in the

contingent reserve fund or in the tolls reduction fund hereinafter described, to the extent that in the commission's judgment the moneys in such funds are available. On moneys so borrowed, the company must pay into the funds annual interest at the rate of 6 per cent, which it in turn will receive from gross earnings as its regular return upon additions to capital value. On account of the high cost of money during the war, the contract gives the company an additional allowance of 1 per cent per annum on money supplied by it for capital expenditures during the continuance of the war or within two years after its close, this additional rate being limited, however, to a period extending five years beyond the close of the war. Working capital is to be furnished by the company as ordered by the commission and upon such capital the company will receive the regular return of 6 per cent per annum. In addition to the allowances already described, the contract specifies that the company shall receive annually the sum of \$181,421.47 out of gross revenues to be expended solely for discount, commissions, printing, engraving, etc., incident to the issuance and sale of bonds or stock. This flat sum is the equivalent of one half of 1 per cent upon the original capital value as fixed by the contract. If any portion of this allowance is not required in any one year for the purposes above described, it must be kept in a special account and reserved for use in subsequent years for similar purposes. In procuring additional capital required under the contract, the company must limit its issues of mortgage bonds or debenture stock so that they will not aggregate more than 75 per cent of the total additional capital furnished under the contract. The net effect of the provisions relating to return upon capital is that the company will be allowed 6 per cent to be distributed in interest and dividends, an additional 1 per cent temporarily on new money supplied during the war and the equivalent of one-half of 1 per cent on the original capital value to cover the expense of financing new capital; subject to the limitation, however, that any portion of this special allowance not used for this purpose shall not be distributed to the stockholders during the life of the contract, and that the dividends paid upon stock shall not during that period exceed 10 per cent per annum.

The fourth charge against gross revenues is a payment of \$500,000 per annum to the City of Montreal. This is in lieu of the percentage payments provided under the old contract.

The fifth charge against gross revenues is an appropriation for the contingent reserve fund. This fund is to get 1 per cent of the revenues until it amounts to \$500,000, when the appropriation from revenues will be suspended until again needed to restore the fund to this full amount. This fund constitutes a surplus which must be maintained as a guaranty that the charges against gross earnings heretofore described will be made up in case of a deficiency in any particular year. At the termination of the contract the moneys remaining in this fund will be distributed in the same manner as the divisible surplus now to be described.

All the portion of the gross revenues remaining after the payment of the charges heretofore described will constitute the divisible surplus and will be distributed at the end of each year in the ratio of 30 per cent to the city, 20 per cent to the company, and 50 per cent to the tolls reduction fund. The portions of the surplus paid to the city and to the company respectively will belong to them

to be disposed of as they see fit, subject to the limitation already mentioned that the company may not in any year during the life of the contract pay dividends on its capital stock in excess of 10 per cent.

The tolls reduction fund, which is to be built up year by year from 50 per cent of the divisible surplus, is a fund to be used for the reduction of fares in case the fares in force at the beginning of the contract or at any subsequent period prove to be unnecessarily high. When this fund reaches the sum of \$1,000,000 the commission *may* reduce the fares, and when it reaches the sum of \$2,500,000 the commission *must* reduce the fares. In order to insure reasonable stability in the new fare schedules established by the commission, the contract provides that when fares are to be reduced, one fourth of the moneys then in the tolls reduction fund shall be taken out and turned back into gross revenues, and that the amount of the reduction of fares for the year shall be at least equal to the amount so taken out of the tolls reduction fund but shall not exceed that amount plus an amount equal to 75 per cent of the annual flow from gross revenues into divisible surplus. Thereafter, at the beginning of each year, the commission is to take a like amount out of the tolls reduction fund and turn it back into gross revenues so long as moneys are available for this purpose. This plan was devised for the purpose of stabilizing rates as much as possible and at the same time preventing the commission from completely stopping the flow into the divisible surplus by arbitrary reductions. If the tolls reduction fund becomes exhausted, the rate of fare, nevertheless, will not be changed unless an increase becomes necessary. Whenever the contingent reserve fund falls below \$300,000, with all prior charges upon gross revenue paid in full, the commission must appropriate moneys from the tolls reduction fund to restore the contingent reserve fund to the full amount of \$500,000, and if no moneys are available in the tolls reduction fund the commission must increase the fares in an amount at least sufficient to restore the contingent reserve fund and maintain it at the full amount. At the termination of the contract any moneys remaining in the tolls reduction fund will be the property of the city without any enhancement of the purchase price to be paid for the company's plant.

In Chapter XXVIII of this report I have already described the Montreal fare schedule in effect under the old contract and the two schedules that have been put into effect under the new one. It will be recalled that the present cash fare, except during the night, is seven cents, with general ticket fares at six cents or a little less. The average of all fares paid in November, 1919, under the present schedule, was 5.84 cents, as compared with 5.37 cents in Cleveland during the first half of 1919 when the highest rate of fare thus far charged was in effect.

It will be seen that the Montreal settlement was based on the theory that no franchise contract will enforce itself; that no matter how good the scheme, it will not work automatically; that private operation of a street railway system, if the public interests are to receive adequate attention, must be continuously supervised through the application of public intelligence and will. However, instead of municipal control, the Montreal contract provides for a local metropolitan commission appointed by the provincial authorities and subject in almost every respect to the appellate jurisdiction of the provincial utilities commission.

Arbitration cuts no figure in the Montreal scheme, as public control is theoretically complete. The people of Montreal and its suburbs can have exactly the kind of service that the two commissions think is good for them and are willing to make them pay for. It should be explained further that by the terms of the contract, a uniform tariff territory is established to include the City of Montreal, the cities of Westmount and Outremont and certain adjacent towns to which the principal fare schedule applies. Outside of this territory are seven suburban communities in each of which a special schedule of rates has been established. Each of these suburban schedules is lower than the city schedule.

In April, 1920, in the closing weeks of the session, the New York Electric Railways Association caused to be introduced in the state legislature a so-called service-at-cost bill which was patterned somewhat after the Montreal plan, but was strikingly different from it in certain respects. The Jenks bill, as it was called, made provision for a bonus as "the premium for operating efficiency and economy." This bonus, however, was to be one-half of one per cent on the investment, or four times the corresponding bonus allowed in the Montreal plan. Moreover, any changes in wages that might take place during the year were to be automatically accepted as modifying the operating allowance fixed at the beginning of the year. Also, instead of a supervisory commission fixing the operating allowance, this was to be done by agreement between the city and the company or by arbitration. The "investment value" of the property as a basis for determining the return to capital was to be fixed by agreement or by arbitration, and upon the amount so fixed the company was to receive a return of 10 per cent per annum. Pending the determination of the investment value the company was to receive a rate of return sufficient at least to pay "all existing fixed charges, rentals and all other compulsory obligations necessary to prevent mortgage foreclosure or the disintegration of the system of the company" as operated at the time of the passage of the act.

For the purpose of determining matters of difference between the company and the municipality arising out of the operating of the company's property under the service-at-cost agreement a "fare reduction board" was to be established, consisting of three members, one to be selected by the municipality, one by the company, and the third by agreement between the municipality and the company, or, in case of their failure to agree within thirty days, then by the presiding justice of the Appellate Division of the Supreme Court. A municipality having a service-at-cost contract with a company was to have the right to submit to the company a list of six persons, of whom one, selected by the company, should be chosen as a member of the board of directors. The local authorities of the municipality were to have the right to appoint a street railroad commissioner, and, with the approval of the fare reduction board, fix his compensation, which would be paid out of gross revenues. Under this plan, when a service-at-cost agreement between a municipality and a company had been filed with the Public Service Commission, the latter's jurisdiction over service and rates would cease during the period of the agreement or any renewal or extension of it.

These agreements were to be limited in the first instance to five years, and, unless they were renewed, the parties, at the end of that time, were to be restored

to the status occupied by them during the period prior to the coming into effect of the service-at-cost plan.

Quite a number of the detailed features of the Montreal contract were preserved in the Jenks bill, but three fundamental changes, all of them strongly favorable to the companies, should be noted. First, the basic rate of return upon the investment was to be fixed at 10 per cent instead of 6 per cent. Second, the companies were to be relieved of all responsibility for wage increases. Third, the control of service and the administration of the terms of the service-at-cost agreement were not to be vested in public regulatory bodies, but were to be effected by agreement between the parties or by arbitration. In this last respect the Jenks bill embodied a lame imitation of the Cleveland arbitration plan. Fundamentally, the service-at-cost plan outlined in the Jenks bill would supersede entirely the exercise of the police power of regulation by either state or local authorities, and would not give the public the effective right to demand such service as it is willing to pay for.

The Jenks bill was defeated by a close vote in the New York Assembly, but it illustrates the extreme importance of the details in any service-at-cost or other plan for the readjustment of the public relations of the electric railways. One of the mistakes made in Montreal was the failure of the original Tramways Commission to take the public into its confidence and to secure its approval of the plan adopted. The public of New York had almost no opportunity to familiarize itself with the provisions of the Jenks bill while the attempt was being made to force it through the legislature, and the tactics adopted by the New York Electric Railways Association in this case aroused the resentment of the municipalities of the state. The Montreal plan contains some admirable features, but the evidence before the Commission makes it clear that it is a grave mistake to suppose that any service-at-cost plan can be successfully applied by mere imitation, and, beyond a doubt, if the plan that is in successful operation in one community is to be adopted in another, the public cannot be expected to accept the plan without question after it has been changed in important respects by the companies for their own benefit and without public consultation.

The third most distinctive type of service at cost thus far put into effect has been worked out in Massachusetts, where in 1918 three separate and somewhat different service-at-cost acts were passed; one for the operation of the Boston street railway lines, another for the operation of the Bay State street railway system serving most of the cities of Massachusetts north and south of Boston, and the third, a general act for the benefit of any other street railway companies of Massachusetts that might choose to accept it and comply with its conditions. The two special acts inaugurated a system of public operation by boards of trustees appointed by the Governor, with the consent of the council, without public ownership. In both cases the legislative acts, having been accepted by the beneficiaries, have established service at cost on the basis of contractual relations between the companies and the state.

In the case of the Boston Elevated Railway Act, the right is reserved to the commonwealth or to any political sub-division of it to purchase, at any time during the period of public management and operation, the company's "whole

assets, property and franchises as a going concern" by the assumption of the company's outstanding indebtedness and liabilities and by the payment of an amount in cash equal to the amount paid in in cash by the company's stockholders for the stock then outstanding. Special provisions are contained in the act for the acquisition of the property of the West End Street Railway Company (owner of most of the surface lines of Boston) now leased to the Boston Elevated Railway Company, in case this property shall have been acquired by the lessee before the date of public purchase. These provisions are not to preclude the commonwealth or any political sub-division of it from acquiring the property and franchises of either company at any time through the exercise of the power of eminent domain.

The act specifies that there shall be five trustees who shall serve for a period of ten years from the date when they assume the management of the company and shall each receive a salary of \$5,000 per annum for their services. The trustees themselves appoint a chairman. Any trustee may be removed for cause by the Governor with the advice and consent of the council. The state is to manage and operate the company's properties for a period of ten years and during that time the trustees will have the right to appoint and remove, in their discretion, the president and all other officers of the company, excepting the board of directors. The trustees also have the right "to regulate and fix fares, including the issue, granting and withdrawal of transfers and the imposition of charges therefor." They are to "determine the character and extent of the service and facilities to be furnished" and in these respects their authority is exclusive and not subject to the approval, control or direction of any other state board or commission. The trustees and their employes are deemed to be agents of the company, not of the state, and the company is liable for their acts and negligence to the same extent as if they were in its immediate employ. It is stipulated that nothing in the act shall affect the right of the state or any of its sub-divisions to tax the company or its stockholders the same as if the company had continued to manage and operate its own property. The public trustees have authority to make contracts and to issue stocks, bonds and other evidences of indebtedness in the name of the company, but they are not authorized to make any additional contracts for the operation or lease of new subways or elevated or surface lines which would involve the payment of compensation beyond the period of public operation. However, the trustees may construct or purchase additional surface lines, even after the consent of the directors has been refused, if the trustees determine after a public hearing that public necessity and convenience require such construction or purchase.

Before accepting the act the company was required to raise the sum of \$3,000,000 in cash by the issuance of preferred stock at not less than par, such stock being entitled to cumulative preferential dividends not to exceed 7 per cent and such preferred stock is subject to retirement at the request of the trustees, or after the period of public operation, at 105 and accrued dividends. The proceeds, to the extent of \$1,000,000, were to be set aside as a reserve fund and the remaining \$2,000,000 were to be subject to the disposition of the trustees to pay the cost of additions and improvements to the property. The act prescribes that

the trustees shall from time to time "fix such rates of fare as will reasonably insure sufficient income to meet the cost of the service, which shall include operating expenses, taxes, rentals, interest on all indebtedness, such allowance as they may deem necessary or advisable for depreciation of property and for obsolescence and losses in respect to property sold, destroyed or abandoned, all other expenditures and charges which under the laws of the commonwealth now or hereafter in effect may be properly chargeable against income or surplus, fixed dividends on all preferred stock of the company from time to time outstanding and dividends on the common stock of the company from time to time outstanding at the rate of five per cent per annum on the par value thereof during the first two years, five and one half per cent per annum on the par value thereof during the next two years and six per cent per annum on the par value thereof during the balance of the period of public operation." The act provides that the dividends shall be paid quarterly beginning at the expiration of 6 months from the commencement of public operation; and that the total of the first three payments shall aggregate 5 per cent on the par value of the common stock. Within 60 days after their qualification the trustees were required to "fix and put in operation rates of fare which in their judgment will produce sufficient income to meet the cost of the service as defined * * * * and within sixty days thereafter shall adopt and publish a schedule of eight different grades of fare of which four shall be below and four above the rate of fare first established; and whenever by reason of any change in the existing rate of fare there are less than four grades either above or below the rate then in force, the trustee shall forthwith adopt and publish a schedule of additional grades of fare so that there shall always be not less than four grades of fare above and below the existing rate of fare." However, the trustees at any time when they think that the rates of fare or the schedule should be changed, with respect to either the method or the basis upon which fares and transfer privileges are established, or for any other reason, may adopt and put into effect new schedules or rates of fare.

Whenever the company's income is insufficient to meet the cost of service as defined, the reserve fund is to be used as far as necessary to make up the deficiency; and if, on the other hand, the income is more than enough to meet the cost of service, the excess is to be transferred to the reserve fund. The act made no provision for an automatic change, before June 30, 1919, the end of the fiscal year, in the fares first established by the trustees, but it does provide that subsequent to that date account shall be taken quarterly of the condition of the reserve fund and, if at the end of any quarter this fund exceeds its original amount by 30 per cent or more, and if during the past quarter the income has exceeded the cost of service, then the trustees must within another month put into effect the next lower grade of fare; and in like manner, if the reserve fund is found to be less than 70 per cent of the original amount, the trustees must within a month put into effect the next higher grade of fare. The act provides that if on June 30, 1919, or semi-annually thereafter the amount remaining in the reserve fund is insufficient to make good any deficiencies that may have accrued in the cost of service, the State of Massachusetts shall pay to the company the amount of such deficiencies, less the amount, if any, in the reserve fund applicable thereto.

Thereafter, if the reserve fund exceeds its original amount at the end of any half year, the trustees must apply the excess as far as necessary to reimbursing the state for moneys previously advanced by it under the provisions just described. The moneys advanced by the state are in the first instance to be borrowed by the state treasurer, but for the amounts so advanced assessments are to be levied upon the cities and towns in which the company renders service in proportion to the number of persons in such cities and towns using the company's service, as determined by the board of trustees.

During the continuation of public management the trustees are bound "to maintain the property of the company in good operating condition, and to make such provision for depreciation, obsolescence and rehabilitation that, upon the expiration of the period of public management and operation, the property shall be in good operating condition." Public management is to continue after the expiration of the 10-year period until the state elects to discontinue it, and its discontinuance may be accomplished only by appropriate legislation passed not less than two years before the date fixed for turning the property back to the company. Whenever moneys advanced by the state and collected from the municipalities are repaid by the company, they are to be redistributed to the municipalities in proportion to the amounts previously collected from them. Upon the termination of the period of public management the company is to operate the property and "may fix and collect such just and reasonable fares as will produce an income sufficient to pay the reasonable cost of the service" as defined in the act, including dividends upon the common stock at the rate of 6 per cent per annum on the par value, but no more, and the company may establish fare schedules that will automatically increase or decrease in the same manner as authorized during public control. The act stipulates, however, that the state shall not be under any liability to make payments to the company for deficiencies in income accruing after the discontinuance of public operation. Thereafter, the company is to be subject to public regulation and supervision in such manner as may be determined by the legislature, but "such regulation and supervision shall not be exercised so as to reduce the income below the reasonable cost of the service" as defined in the act. The act contains a provision, however, that none of its provisions shall be construed to constitute a contract binding upon the state other than the provisions which define the terms and conditions under which the property is to be managed and operated by the trustees during the period of public management and the provisions of the section requiring the trustees to maintain the property at all times in good operating condition.

It appears from this analysis that service at cost as applied to the Boston Elevated Railway system means (1) public operation; (2) a fixed and guaranteed return upon capital; (3) an obligation on the part of the state to rehabilitate the property and maintain it in good condition; (4) a flexible fare sufficient to pay the entire cost of service, including rehabilitation and dividends; (5) the right of purchase either by the state or by a municipality upon repayment to the stockholders of their actual investment in the property (or as an alternative by condemnation proceedings); (6) operation by state-appointed trustees entirely independent of any supervision or control by the local authorities or by the Public

Service Commission; (7) the right on the part of the state to bring the policy of public management to an end at any time after the expiration of 10 years, but with the promise, which however is not enforceable as a contract, that in case the property is turned back to private control, the company will be given the right to fix its own rates as may be necessary to enable it to get revenues sufficient to pay the full cost of service, including 6 per cent dividends, but without a guaranty that deficiencies in revenues will be made up from taxation.

The Boston Elevated service-at-cost act was not submitted to the local authorities of Boston or to the people of Boston for their approval and it is clear from the testimony before the Commission, as well as from other sources of information, that in its operation the Boston plan has been very unpopular. As we have already seen, the 5-cent fare was discontinued one month after the public trustees took hold. The unit fare was put up to 7 cents on August 1, 1918; to 8 cents on December 1, 1918, and to 10 cents on July 10, 1919, and it was not until the latter part of September, 1919, that the company's current revenues were sufficient to meet the full cost of the service as defined in the act and as fixed by the trustees. However, after September, 1919, the 10-cent fare yielded more than the cost of service during every month up to February, 1920, when there was a loss of about \$372,000, said to have resulted principally from the enormous expense incident to the winter snow storms. The loss under the first year of public operation ended June 30, 1919, was \$4,980,000 of which nearly \$4,000,000 had to be made up out of taxes. With the 10-cent fare in effect all but the first ten days of the period, the loss for the eight months ended February 28, 1920, including certain items of back pay reaching back into the preceding fiscal year, was approximately \$730,000. It is no wonder, perhaps, that the Bostonese have not been greatly pleased with a service-at-cost plan that has imposed upon them a heavy burden of taxation without delivering them from the 10-cent fare. As taxpayers they doubtless would enjoy the prospect of having the \$4,000,000 already advanced to make up the deficiency in street railway earnings returned to them out of the future profits, but as farepayers they cannot view with complacency the fact that the 10-cent fare is now yielding only a small and somewhat uncertain margin over the current cost of service and that no reduction in fares can be effected until the accumulated deficiencies of more than \$5,000,000 have been made up out of earnings.

In Chapter XII of this report, I have already quoted at some length the testimony of Chairman McLeod, of the Massachusetts Public Service Commission, with respect to the depreciation policy of the Boston Elevated service-at-cost act as administered by the public trustees. Discussing the reasons for the present high cost of service in Boston, Mr. McLeod, at page 1443 of the Proceedings, says:

"The maintenance charges on the Boston Elevated during the past year have exceeded the maintenance expenditures for the year before by substantially two and a half million dollars, which represents pretty nearly double the expenditures for maintenance alone, and there has been an expenditure of a little over \$2,000,000 of depreciation reserves over and above that amount, of which \$1,650,000 represents the increase over the previous year. In other words, the company's maintenance and depreciation programs together have represented an expenditure of over \$4,000,000 more under public control than was expended under private control, and that of course has been one very significant element in bringing about the financial situation and developing the increased operating cost which has necessitated an advance in fares."

Mr. McLeod brings out the fact that before the Boston plan was adopted the Massachusetts Public Service Commission tried in vain to get it changed in certain respects where the commission thought the interests of the public were not properly safeguarded. At pages 1444 and 1445 of the Proceedings, we find the following testimony:

"The Chairman: Is the company charging all its depreciation and maintenance to operation?"

"Mr. McLeod: It is charging all to operation; so far as the depreciation requirement is concerned, it is significant to remember that this depreciation fund is not intended to cover depreciation in roadway and track; that renewals in ties and paving and roadway are made as part of the maintenance charge. Now, in accounting practice it has, I think, been most common to include the depreciation of your rails and the depreciation of your ties, except perhaps so far as minor renewals and patching up is concerned, as coming under your depreciation program. But under the system adopted by the trustees, which was in accordance with the plan outlined in Mr. Beeler's report, this maintenance program—this entire program of track reconstruction—is charged up to maintenance and not charged to depreciation.

"The Chairman: Now, if the Board continues this practice, at the end of ten years you are going to have a splendidly equipped plant to turn back to the corporation. The cost of putting that plant in condition, charged to operating expenses, is all borne out of the revenue. That means that the cost to the taxpayers or rather to the passengers has been excessive during that ten years. What method has been adopted, if any, to reimburse the public for the money which it expends for that purpose?"

"Mr. McLeod: There has been no method adopted, and that is simply one point and perhaps the most conspicuous point of several points that might be mentioned where the public interest was not adequately served in the legislation that was passed. I know when that matter came up the commission in a prepared statement and I myself orally before the committee argued as strongly as I possibly could the lack of equity in the very point that you have raised and suggested that the Act in that respect should be drawn upon the analogy of the law and practice of the Railroad Administration where ample provision is made protecting the public from having the investors profit * * * * by any increments of value added to the property during the period of public control. But no such safeguards have been put into the Massachusetts Act, although the commission used all its efforts to see that a provision of that kind was embodied in it."

Mr. Grenville S. MacFarland, representing the Hearst newspaper interests, was an important factor in the formulation and negotiation of the Boston Elevated service-at-cost plan. As a witness before the Commission, Mr. MacFarland advocated public ownership and operation, but his support of the Boston plan in its origin was evidently based upon the conviction that public operation, even with private ownership, would do away with the most serious evils of the old régime. At page 1356 of the Proceedings, he says:

"I think the gravamen of the evil of the present situation is not in private ownership; it is in private operation, private control. For instance, Glasgow for 19 years tried public ownership and private control, and it did not work; it was a miserable failure in every respect, politically, economically, financially and socially. And then they took over the public control and it has been the classic example of the success of municipal operation in the world.

"Under private ownership and public operation, if the operation is complete and the separation between the ownership and the operation is as complete as it is under our plan in Boston, your stockholder becomes nothing more than a government bondholder."

At page 1355 of the Proceedings, he refers to the Boston contract as follows:

"In consideration of the public operation—taking over the possession of the property—we agreed to give them a return on their investment which they could not possibly earn under the contract, and in consideration of that they agreed to turn over the possession of their property.

"The Chairman: Do you think that was a fair solution of the problem?"

"Mr. MacFarland: I do think it is a fair solution with this qualification. At the time a very good bargain was not driven by the public. I do not think anybody in Boston who was acting on the public side had any idea of the extent to which that property was gutted; that is to say, the extent to which dividends were paid out of capital, and obsolescence and maintenance had been neglected and the railroad had been allowed to run down. And now the public, of course, has got to rebuild it and make a new milch cow out of it. That is to

say, if the old stockholders ever contemplate taking it back again. And in any event they are building it up against themselves if they ever decide to purchase it.

"The Chairman: Rates are going up by leaps and bounds in Boston.

"Mr. MacFarland: Well, they have gone up to 10 cents, and the counsel for the railroad who is here just told me that they are making money."

Asked what he thought of the Cleveland service-at-cost plan, Mr. MacFarland says at page 1357 of the Proceedings:

"I think it has worked pretty well in Cleveland under special circumstances, under circumstances that you will not be able without great struggle to effect in other cities, and under circumstances to bring about which I think you would find the owners of the street railways would prefer public ownership and operation. That is, they went through a reorganization in Cleveland at the beginning of the cost-of-service plan and that reorganization squeezed out a great deal more water than you are liable to get the stockholders of these convalescent roads—I will not say convalescent roads but sick roads—to consent to even in their contrite mood now. Their cost-of-service plan contemplates the cost of service after paying the cost of the capitalization which now exists in the roads.

"The Chairman: Now, referring to the principle involved rather than to the practical difficulties, do you believe that if the property of the plant is properly valued, either by the city or by some state tribunal, and the contract made which secures the proper return to the capital invested with efficient regulation over the service and capital expenditures, the maintenance requirements and of the accounting—would that be satisfactory and properly safeguard the public interest?

"Mr. MacFarland: For a while, while the public was interested in it. It would be like a new broom that sweeps clean. But just as surely as those things have worked out in that way in the past, in the long run the man who is interested in the private property, in the company under that management, will find ways by stealth or hook or crook of cumulating a profit that was not contemplated in the original contract. It always has been so and always will be so."

Mr. MacFarland's testimony brings into sharp relief the testimony of Mr. Roger W. Babson and other witnesses who insist that a service-at-cost plan ought to offer the investors a chance for additional profit, in excess of the minimum return, as an incentive to efficient and economical management. It will be recalled that Mr. Babson suggested as his solution of the electric railway problem, the lifting of all restrictions as to rates and the equalization of public burdens and service requirements as between the railways and their jitney competitors. He expressed the opinion that the street car fares in Boston would be lower under such an arrangement than they are today under public operation. He gave as his reason for this opinion the fact that "the state is holding the umbrella" and the stockholder's interest is gone. At pages 1055 and 1056 of the Proceedings, he goes on to say:

"The wage worker is in the same position. He looks upon it as a grab-bag, you might say—that it is not coming out of anybody especially, that it is coming out of the whole public in general, and that the spirit of the age is to grab, and consequently his restraints are off.

"It may work out all right, but I feel very strongly that before we go headlong into municipal ownership or service at cost we should free the street railways from their shackles, that we should stop persecuting them, and give them an opportunity to save themselves. And I am not sure but that, in giving them an opportunity to save themselves, some communities would save themselves likewise, because the relation between the prosperity of a community and the prosperity of its street car system is very, very vital."

Mr. Babson admitted that the Cleveland system must be a good system if it produced the results claimed for it. Mr. Warren brought out the fact that what Mr. Babson objected to in the Boston plan was the public guaranty of the dividends. At page 1062 of the Proceedings, we find the following:

"Mr. Warren: In Cleveland, as I understand the situation there, the only guaranty is that the company may charge up to a certain limit a sufficient fare to meet that cost of service; but it has to get it out of the operation of the property?

"Mr. Babson: That is more in line with what I have suggested. That is all right."

A little further on, Mr. Babson said that the plan he liked best was the New Brunswick plan, introduced by Professor Richey. That was a sliding scale plan giving the stockholders a higher rate of return as fares are reduced. Mr. Babson also refers to the sliding scale plan adopted twelve or fifteen years ago in connection with the gas service of Boston, and adds, at page 1063 of the Proceedings:

"The effect of it is that everybody is right on his toes, and we have a very efficient organization there. We have the best gas engineers in the country, and we have very low priced gas. I think it has been successful."

Mr. Ralph S. Bauer, of Lynn, did not mince words in expressing his opinion of the service-at-cost plan as it has worked out in practice in Boston, as indicated by the following statement by him at page 1625 of the Proceedings:

"This service-at-cost plan, so-called, is a plan that is only a temporary expedient, because of the fact that there are no measuring standards of efficient, economic and careful operation by which the public who ride on the cars can determine whether or not those costs have been proper ones.

"The public trustee plan as worked out by the Boston Elevated Railroad, in my judgment, is a colossal blunder. It nullifies every effort to careful, efficient and economical street railroad management. The trustees as appointed by the Governor are most all of them lawyers, no one of them street railway operating men; they have shown neither courage nor initiative in handling the property, and they have chased the rates of fare up to a point now that the people ride on the street cars at a 10-cent cash fare about the same as they do on ambulances, only when they have to."

Interstate Commerce Commissioner Eastman also has his doubts of service at cost if applied as it has been in Massachusetts. At page 2078 of the Proceedings, he says:

"I think it is liable to work well where it is the result of mutual agreement between the local people and the owners of the property, and is not forced upon them by some agency like a state government. In other words, where it is the result of a mutual feeling and a meeting of minds of those most vitally interested, and it is also likely to be successful where the fares vary around five cents. When you get to a situation where the cost of service leads to fares higher than five cents, you are running into great danger, because it is very apt, if you base it upon a flexible rule, to keep fares mounting up indefinitely without any real advantage to anyone. One of the difficulties in raising fares is that once you have them raised it is almost impossible to reduce them, if they do not produce the results desired."

The Boston Elevated service-at-cost act did not restore the company's credit sufficiently to meet its pressing needs for new capital. The problem has been solved temporarily by the state's purchasing of the Cambridge subway from the company for \$7,868,000, thus placing this amount of new capital at the disposal of the public trustees for construction purposes.

The Bay State service-at-cost act differs from the Boston Elevated act in several particulars. It provided for the reorganization of the old Bay State Street Railway Company which was in receivers' hands when the act was passed. Upon the organization of the new company the Governor was to appoint, with the advice and consent of the council, five trustees to operate the road, but, in this case, the term of those first appointed was to be five years, although the period of public operation was to be ten years, the same as in the case of the Boston Elevated. The new company was organized as the Eastern Massachusetts Street Railway Company, and public operation went into effect on June 1, 1919. By the terms of the Bay State act the capitalization of the new company, including stock, bonds and other evidences of indebtedness, representing the property whose in-

vestment value was fixed by the Public Service Commission as of August 31, 1916, was limited to the equivalent of \$40,282,340 on a six per cent basis, plus subsequent additions and improvements. Certain adjustments of the sum just described as representing the recognized capital value were to be made by the Public Service Commission.

The new company was authorized to issue serial bonds, with not more than \$5,000,000 outstanding at any one time, and these bonds were to be payable in installments within a period of not more than ten years from the dates of issue. In addition to the security of a new mortgage, the annual installments of these serial bonds were given a first lien upon all the earnings of the new company applicable to dividends in the years when such installments of serial bonds mature, but the moneys used to pay off the serial bonds in lieu of the payment of dividends are to be capitalized in the form of additional capital stock to be distributed to the stockholders in place of dividends. For the purpose of refunding serial bonds or any maturing obligations of the new company or of the leased lines within the state, or for the purpose of making additions or improvements, the public trustees are given authority to cause the new company to issue securities under the laws of the state, and it is stipulated that serial bonds and equipment notes may be issued without reference to the amount of capital stock outstanding; also that bonds may be sold at a discount, with provision for the amortization of the amount of the discount during the life of the bonds.

The act forbade the new company to acquire the property of the defunct Bay State company until the trustees were satisfied that provision had been made by the security holders of the old company for paying in \$1,000,000 in cash for securities of the new company to be used in the rehabilitation of the lines and for other purposes, and also that provision had been made for the immediate sale of at least \$2,500,000 of serial bonds. Out of the proceeds from this sale, the sum of \$500,000 was to be used to set up a reserve fund, and the sum of \$2,000,000 was to be set aside to be spent by the trustees in additions and improvements or in the payment of receivers' certificates issued for such purposes. The public trustees were authorized to enter into agreements with the purchasers or holders of serial bonds up to the amount of \$4,000,000 maturing in not more than ten years from the date when the new company acquired the property; such agreements to provide that if the earnings of the new company otherwise applicable to dividends should be insufficient to pay the installments of these serial bonds as they mature the trustees shall make up the deficiency. In order to enable the trustees to make this agreement, it was provided that the state should purchase from time to time a sufficient amount of serial bonds to supply this deficiency, and it was also provided that the state should be reimbursed for moneys spent in this manner by the municipalities served by the new company in proportion to the number of persons in such municipalities using the service.

The control of the public trustees with respect to the management and operation of the property is substantially the same as in the case of the Boston Elevated Railway, and similar provisions obtain with respect to the cost of service and the semi-automatic regulation of rates to cover the cost of service. It is provided, however, in the case of the Bay State lines that those north of Boston

shall constitute one fare district and those south of Boston, another; and that the items entering into the cost of service shall be allocated by the trustees between the two districts for the purpose of estimating the basis for fares; but the trustees are authorized to make further sub-divisions of the territory served into fare districts. A special provision in this law gives any city or town served by the company's lines the option to determine by a majority vote of the electors to contribute out of taxes a certain amount toward the cost of service "for the purpose of preventing increases in fares, or of reducing fares, or of avoiding discontinuance or reduction of service." Such contributions may be for the period of the war and for two years thereafter, and are limited to "any part or all of the increase in the cost of operation due to increased wages, or the cost of supplies or coal in excess of the average cost for the year ending July 1st, 1914, as determined and apportioned by the trustees." Moreover, the contribution by any city in any one year is limited to 50 cents for each \$1000 of assessed valuation, and the contribution of any town to \$1.00 for each \$1000 of assessed valuation. It is provided that if part only of the cities and towns in any fare district contribute to the cost of operation in the manner just described the trustees shall make such adjustments in fares as they think equitable under the circumstances.

The return upon investment as an element in the cost of service in the case of the Bay State lines is defined as the interest payments, stated dividends on the preferred stock and 6 per cent on the common capital stock of the new company. In the case of the Bay State lines it is definitely provided that public management is to terminate at the end of the ten-year period. The company will then come into the control of the property under the general laws of the state, unless, in the meantime, the property has been acquired by the state, or by some political sub-division of it, in accordance with the option of purchase described in the act. This option is similar to that contained in the Boston Elevated act. The Bay State lines are relieved during the continuance of the war and for a period of two years thereafter, unless otherwise ordered by the Public Service Commission, from paying "any part of the expense of the construction, alteration, maintenance or repair of any street, highway, or bridge, or any structure maintained or placed therein or thereon, or of the abolition of any grade crossing or the removal of wires from the surface of any street or highway to an underground conduit or other receptacle."

It is to be noted that service at cost is defined in substantially the same way in the Boston Elevated and the Bay State acts, but the state provides no guaranty in the case of the Bay State lines that the prescribed return on capital will be paid if it turns out that the system is unable to earn the full cost of service. However, as we have already seen, the state's guaranty in the case of the serial bonds enabled the trustees to dispose of \$2,500,000 of them on a 6 per cent basis, and in this way, as Mr. Loring testified, the trustees have been provided with adequate new capital for additions and improvements for a period of two or three years at least. Under the Bay State act, if deficiencies accrue, there is no provision for making them up out of taxation, either temporarily or permanently, except that individual municipalities may, if they wish, contribute a

limited amount for the purpose of keeping the fares down or preventing the suspension of service. Moreover, the Bay State act contains no promise that the service-at-cost plan will be continued beyond the termination of the ten-year period of public management.

It is apparent from the testimony of Mr. Homer Loring, Chairman of the Board of Public Trustees now operating the Bay State lines, that the depreciation policy now being pursued with respect to this system is similar to that pursued by the Boston Elevated trustees. At page 1655 of the Proceedings, Mr. Loring says:

"We are setting aside a depreciation account of \$1,041,000.

"The Chairman: And that is much larger than has been heretofore charged?

"Mr. Loring: Oh, six times; I think \$150,000 was about the largest amount they had ever charged.

"The Chairman: Is it your view that the depreciation that you have charged off fairly represents what should be charged in the future or is there some abnormal condition?

"Mr. Loring: Of course, that matter is affected very largely by the prices of material. A million dollars depreciation in the old days of the Bay State would have been a very large amount, but it buys now the same material and labor that \$500,000 would have bought then. The trustees were reluctant about setting the figure as high as \$1,000,000, but after very careful figures of the cost of everything that that would buy which went into the tracks and the power plant and cars we made up our minds that since the law directed us to charge an adequate amount, no smaller amount would be adequate."

Mr. Loring states that the physical condition of the system was bad when the public trustees took control and that much deferred maintenance had accumulated. The trustees propose to rehabilitate the property and put it into good condition just as rapidly as they can. At page 1656 the following testimony appears:

"The Chairman: What will be done to repay the state for the large amount of money which it is putting into this property to build it up?

"Mr. Loring: Well, of course, that is a consideration that the state pays for the security owners turning over control of the property.

"The Chairman: So it is not expected that the state can be recouped for any expenditure which is made for taking care of deferred maintenance or putting the property in good shape?

"Mr. Loring: No, not so far as deferred maintenance is concerned.

"The Chairman: That is to be a contribution by the state.

"Mr. Loring: That is to be a contribution by the state. At the same time we are not fixing the amount of depreciation, Mr. Chairman, at any larger than a normal amount. In other words, the amount we are fixing today is insufficient to take care of past deficiencies."

But there is this important difference between the obligations assumed by the commonwealth toward the Bay State system and the obligations assumed toward the Boston Elevated system, namely, that if the rehabilitated Bay State lines are turned back to their owners in good condition, the upbuilding of the property will not have been accomplished through direct contributions of the state, while in the case of the Boston Elevated this may be just what will happen in case operation at a high rate of fare should not prove sufficiently remunerative to enable the trustees to reimburse the deficiencies now being made up through taxation.

All accounts agree that the service-at-cost plan as applied to the Bay State lines has not been an unqualified success from the standpoint either of the investors or of the public. The unit rate of fare in effect since July, 1919, has been 10 cents cash, without reduced rates for tickets except in particular communities where the trustees have been experimenting with special fare schedules

in the hope of getting the lost traffic back. Mr. Loring testified that fare increases on the Bay State lines have in every case resulted in some gain in gross revenues. Upon this point Mr. Loring's testimony, at pages 1657 and 1658 of the Proceedings, is very significant:

"Commissioner Sweet: You have gained, say, a little?"

"Mr. Loring: Yes, it is comparatively little.

"Commissioner Sweet: But you have greatly diminished the car riding?"

"Mr. Loring: Very greatly.

"Commissioner Sweet: You have simply from a much smaller number of people got double the amount of money and that has made a comparatively slight increase in the total revenues?"

"Mr. Loring: We feel it is a very unfortunate situation, that a public utility as it ceases to serve the public, as the part of the public it serves is cut down, its functions are shrunken just that much.

"Commissioner Sweet: In order to increase the revenue very little you have decreased the value of the utility to the public a great deal.

"Mr. Loring: We as trustees have determined on the course of trying to get the income we need from as many people as possible.

"Commissioner Sweet: That is it exactly. You want to keep up in value as a public service utility.

"Mr. Loring: That is the course we want to follow, yes.

"Commissioner Sweet: So you would not recommend to this Commission any adoption of a report or the formulation of conclusions that would produce the revenue necessary for immediate use at the sacrifice of the real purpose for which these organizations exist, that is, service to the public, unless their very existence depends upon doing so. You would deem that a very last resort, would you not?"

"Mr. Loring: Yes, I would say I would try other things first. Of course, assuming you have got to raise the money to continue the company's credit, if no other way can be found you have got to get your revenue from a few people, but I think it is very unfortunate if that course has to be followed.

"Now, that of course is what is happening in the Boston Elevated situation to a less extent than in ours. They are now getting the money. I understand they are getting now their cost of service out of the public, but of course they are getting it through a substantial loss in the number of car riders. I think it far better to get it that way than not at all, because they are maintaining good service and serving the people well, and if that is the only way, all right; but I think it would be very much better if the same amount could be obtained in some way from more fare earnings. But that can only be done by experimenting with fares and trying them out.

"Commissioner Sweet: Is it your belief that a great deal of the falling off of patronage is due to ill-will, to a sort of resentment on the part of the public against these corporations in the belief they ought to give them the service at a small price?"

"Mr. Loring: There is no question about it in my mind. I have seen proof of it again and again and again. When we raised the fare to 10 cents it resulted in a virtual boycott in some cities, and I understand in one city now—the manager of a factory told me in that city now—the help that rode on the street cars were jeered by the other people. But, of course, that is wholly lack of information."

In the Electric Railway Journal, issue of February 14, 1920, is an article showing the increase in gross revenues of the Eastern Massachusetts Street Railway for the first seven months of public operation, that is, from June to December, 1919, as compared with the same months of the preceding year when the Bay State lines were being operated by a receiver. The figures show an increase of 19.3 per cent in gross. During the earlier period the unit cash fare under the zone system was six cents. During the later period the unit cash fare was ten cents. Moreover, it is known that the latter part of 1918 was generally in the electric railway industry a low-traffic period, while the latter part of 1919 was a high-traffic period. The comparative figures of gross earnings quoted in the Journal article are as follows:

Month	1918	1919	Increase	Per Cent Increase
June	\$909,360	\$988,319	\$78,958	8.7
July	1,029,111	1,169,775	140,664	13.7
August	1,114,068	1,286,010	171,942	15.4
September	969,768	1,104,618	134,850	13.9
October	795,616	1,073,463	277,847	34.9
November	879,325	1,055,809	176,484	20.0
December	913,535	1,214,632	301,097	32.9
Total.....	\$6,610,783	\$7,892,626	\$1,281,783	19.3

The figures for the Union Street Railway Company operating in New Bedford, where the five-cent fare was retained, and no change in rates made except by the discontinuance of the 3-cent workingmen's tickets and the withdrawal of certain transfer privileges on an interurban division, show an increase of 37 per cent in gross passenger earnings for the same seven months period, and an increase of 24.4 per cent in the number of revenue passengers carried. For the month of December alone, when the Eastern Massachusetts increase in gross earnings was 32.9 per cent, the New Bedford company had an increase of 38 per cent in traffic and 42 per cent in gross passenger revenue. According to the article in the *Electric Railway Journal*, it was expected that for the first eight months of operation under the public trustees the entire system of the Eastern Massachusetts company would "just about show the bond interest was covered." There is nothing in the record or in the supplementary information available to me to show that the service-at-cost plan in effect on the two big Massachusetts electric railway systems has restored the credit of either company, except to the extent that public aid has been given or guaranteed. What Mr. Loring thinks about the importance of the reestablishment of credit appears at page 1653 of the Proceedings, where he says:

"I feel very strongly that that is the big question that the street railroad business of the country has before it now, and I am afraid, the fact is I know, that in many cases, in many cities, it is put to one side. It belongs right at the front I believe at all times. The companies cannot run and serve the public well without credit. There is a constant demand for better facilities, and personally I believe today the only way they can be bridged over this exceedingly uncertain period which confronts them is through some form of public credit. And that leads me to say that if the public is going to lend its credit to them, the public must have a decided hand in the operation of the properties during the period for which the credit is extended."

The general service-at-cost act, passed by the Massachusetts legislature in 1918,⁴ has thus far been a failure, if for no other reason than that no company has accepted it. By this act the cost of service is defined as including "operating expenses, taxes, rentals, interest on all indebtedness, * * * * dividends on preferred stock and interest return at the rate of six per cent per annum upon the stock investment as determined by the commission, * * * * and such allowances for depreciation, for obsolescence and for losses in respect to property sold, destroyed or abandoned as may be fixed from time to time in the case of each company by the commission, and all other expenditures and charges which, under the classification of accounts of the Interstate Commerce Commission and under the laws of the commonwealth, are properly chargeable against income or surplus." The term "stock investment" is defined to mean the "capital investment" less the amount paid in for outstanding preferred stock,

bonds and other evidences of funded indebtedness. The term "capital investment" is defined as meaning "the amount of cash or fair value of the property paid in" for stock, bonds and other securities and "properly expended for capital purposes," all as to be determined by the Public Service Commission.

Any company accepting this general act is required to provide a reserve fund of not less than 6 per cent nor more than 12 per cent of the gross earnings of the preceding year. This reserve fund may be provided by the issuance of either bonds or common stock, or preferred stock, issued under provisions of law. The company is also required to provide an improvement fund to be raised by the issuance of securities in an amount to be determined by the commission, but not exceeding 5 per cent of the capital investment. This fund must be fully subscribed within sixty days after the determination of the capital investment, and must be paid in from time to time as required by a plan of gradual improvement to be submitted to and approved by the commission.

Any company desiring to accept this act is required to apply to the commission to determine the amount of its capital investment and the amount of its stock investment; also, the status of its unfunded debt, together with evidence satisfactory to the commission that it has provided or will provide the reserve and improvement funds above described.

Upon the acceptance of the act a company is required to file a schedule of nine different grades of fare and of transfer privileges, one of which it shall designate as the initial grade which it desires to establish and which, in its opinion, will enable it to earn sufficient income to meet the cost of service. Four of the other grades shall provide for progressive increases and four for progressive decreases in revenue, and shall be based upon a calculation that each increase or decrease will be equivalent to 30 per cent of the normal reserve fund. The Public Service Commission, after a hearing, is to approve the fare schedule so filed or else to establish a substitute schedule based on the same general principles. If at the end of any quarter of the calendar year the amount in the reserve fund is 30 per cent above normal, and if during the preceding three months the company's income has been greater than the cost of service, the company is required within thirty days thereafter to put into effect the next lower grade of fare, and conversely, if the amount in the reserve fund is less than 70 per cent of the normal amount, and if during the preceding three months the company's income has been less than the cost of service, the next higher grade of fare must be put into effect.

By the acceptance of the act a company agrees to sell its entire property and franchises as a going concern to the state or to any city or town at any time for a cash payment equal to the stock investment plus the amount of cash paid in for preferred stock, and the purchaser of the property will, in addition, assume "all the outstanding bonds, contracts, leases and other liabilities of the company." As in the Boston Elevated and Bay State acts, it is stipulated that nothing in this act shall affect the right of the state or a municipality to acquire the property of a company by condemnation proceedings.

For any company accepting the act the Governor is to appoint three members of the board of directors of the company. In order that the Public Service Com-

mission may exercise adequate supervision over companies accepting this service-at-cost plan, such companies are required to furnish the commission monthly statements showing the condition of the reserve fund, the company's income and expenditures and such other information as the commission may desire. The state is to be divided by the commission into street railway districts, and for each district within which the service-at-cost act has been accepted by one or more companies the commission is to appoint one or more resident supervisors, whose salaries and expense allowances are to be fixed by the commission and paid by the company or companies under their supervision as an operating expense. It will be the duty of these district supervisors "to keep in constant touch with the operation of the companies and to inform the commission of all complaints and criticism of the service rendered." The act provides that if any special investigation of any company is deemed necessary by the commission, the investigation may be ordered and the company will have to pay the expense of it. The act also provides that "the commission may require such changes in the management and operation of any company which has accepted the provisions of this act as in its opinion may be necessary for the efficient conduct of the business of the company in the interest of the public." It is also provided that if a majority of the state directors of a company operating under this act believe that a particular order or decision of the Public Service Commission would impair the ability of the company to pay a 6 per cent interest return upon the stock investment, they shall so advise the commission in writing, and if the commission still insists upon its order or decision the company may apply to the supreme judicial court for a reversal or modification of the order or decision; and the court may appoint three commissioners to determine the facts and questions at issue, and their report, when confirmed by the court, will be final.

It is noteworthy that this general service-at-cost act differs from the Boston Elevated and Bay State special acts in the fact that it does not provide for public operation and does not provide for a state or municipal guaranty either of new securities to be issued or of the fixed return upon the existing investment. It is to be remembered that outside of the Boston Elevated and Bay State systems there are several urban street railways of considerable size in Massachusetts, notably those of Worcester, Springfield, Holyoke and New Bedford. If none of these systems has been tempted to embrace the service-at-cost plan under the terms prescribed by the State of Massachusetts in this general act, it may perhaps be presumed that service at cost without a public guaranty is not to be regarded as the solution of the problem of electric railway credit in Massachusetts.

The Cincinnati service-at-cost plan, adopted in August, 1918, differs in certain respects from all of the plans thus far described. The occasion for the adoption of the plan was the fact that the existing street railway franchise in Cincinnati, granted in 1896 for a term of 50 years, contained a provision that at the end of the first 20 years and each 15 years thereafter its terms and conditions should be open to revision and that the new rates of fare to be charged should be based upon the cost of carrying passengers at the time of the revision. In point of fact a revision of the ordinance, coupled with a lease of a proposed rapid transit line, was negotiated in 1917 and ratified by the voters of Cincinnati.

This particular plan, however, was defeated by a decision of the Ohio Supreme Court, which held the new ordinance to be invalid on the ground that it made provision for lending the city's credit to a private company. Delays incident to the negotiation of the rapid transit lease, and the further delays resulting from the litigation, threw the problem of the revision of street railway fares in Cincinnati over into the period of high prices resulting from the war. Mr. W. C. Culkins, at that time Cincinnati's Director of Street Railroads, explains at pages 472 and 473 of the Proceedings the general problem with which the city was confronted and the attitude it assumed towards it. Upon this point he says:

"Now, in approaching this question the city took the view in the experience that had already appeared during the war times that there was a new viewpoint necessary in the working out of a franchise that would be the most serviceable to all concerned. They realized that a street railway utility was the key utility in any community, since it made all other industries possible, and that therefore it was highly important to the development of the community that some kind of a franchise be worked out which would allow the community itself to expand and to do its part in the general expansion of the country. They took rather the new view. The old franchise was the old type of franchise. It contained very few restrictions; it provided that cars should run as often as the public convenience required, and neglected to say who should determine that. And it was found there was a very great difference of opinion between the stockholder and the strap hanger as to how often cars ought to run. The view taken by the city in this case was that we should visualize a street railway franchise not so much as a permit given to permit a corporation to operate an industry in the city, but the creation of an agency to carry out a purely municipal function; that it was the duty and the function of the city, which it might exercise of its own motion and of itself, to provide transportation of its people, and if it did not do it that it should create an agency under its control that would carry out this function in the way that the city should direct.

"It was very evident that most of the trouble in street railway franchises was growing out of too much rigidity all along the line, not only in rates of fares but in terms and conditions, and the city felt that perhaps the cure for too much rigidity was a great deal of elasticity. The question was opened at a time when prices were very high, when it would be obviously unfair to the company to expect them to operate on a rate of fare based on pre-war conditions. It would be obviously unfair to the community to ask them to allow the company a rate of fare based upon war times which would continue for a period until 1931, assuming that there was a probability at least of there being some change in conditions during that period. So that the thing which seemed to be obvious was the service-at-cost plan, since it would automatically adjust itself to these changing conditions. It would be high enough to allow the public to have the kind of service that it wanted and was willing to pay for, and it would automatically reduce those rates when the costs and market conditions changed in accordance with that. So that a plan was adopted that follows somewhat the Cleveland plan, being the oldest service-at-cost plan in operation then, with such modifications as we felt experience had warranted in that plan."

The first striking thing about the Cincinnati plan is that the contract was not based upon a valuation, but rather upon a recognition of the existing fixed charges of the Cincinnati Traction Company, including its obligation to pay a rental to the Cincinnati Street Railway Company, owner of the original lines, equivalent to 6 per cent on the lessor company's capital stock. This basis of settlement was arrived at after three physical valuations of the property had been made, one by the company, one by the Ohio Public Utilities Commission and one by an appraisal engineer employed by the city. The capitalization finally accepted did not vary much from the reproduction-cost valuation made by the state commission, but was about double the depreciated value fixed by the city's own expert.

The gross receipts are to be used for the payment of the several elements of the cost of service in the following order:

A. Operating expenses, including the liquidation of accrued personal injury claims; also, all taxes and other governmental imposts not properly chargeable

to capital and not including the percentage tax on gross earnings paid to the city; also, all payments and charges for depreciation which for the first period of 5 years under the contract are to be made in the manner and according to the practice previously followed by the company, unless otherwise ordered by the Ohio Public Utilities Commission, and after the end of this period as "ascertained, determined, fixed and prescribed" by the commission; such depreciation charges to include an amount sufficient to pay the company's equipment notes as they fall due from year to year unless otherwise ordered by the commission; also, payment for the cost incurred by the city and the company in connection with the valuation of the property, and the cost incurred by the company for its part of a traffic survey begun in August, 1916, these payments to be charged as operating expenses and distributed over a period of 6 years from April 1, 1919; also, payment to the city of certain viaduct rentals; also, expenses and court costs incurred by both the city and the company growing out of the enforcement or resistance to the enforcement of any ordinance, order or decision provided for in the contract. Immediately upon the contract going into effect, the city and company were to apply to the Ohio Public Utilities Commission to establish systems of accounts to be kept in connection with the operation of the property that, under the agreement, the city would have the right to purchase.

B. Annual rentals provided for by the leases of the underlying properties, amounting in the aggregate to \$1,234,937.

C. An annual payment of \$215,000 for interest and \$82,445 for sinking funds on \$4,000,000 of capital expenditures made by the operating company prior to December 31, 1916; also, interest on the operating company's equipment notes, such notes amounting in the aggregate to \$1,159,000. The \$4,000,000 and the \$1,159,000, together aggregating \$5,159,000, were designated as the "reducible debt," which is to be paid off out of earnings.

D. Interest and other fixed charges on securities issued to reimburse the company for capital expenditures and made subsequent to January 1, 1917. The contract provides that the amount and character of the securities or notes to be issued by the company, the rate of interest or dividends thereon, the sinking fund or other method of retiring them, if any, and the price at which they may be sold, shall be subject to the approval of the director of street railroads and also of the Ohio Public Utilities Commission. Under this sub-division, also, comes interest on floating debt; also, interest on equipment notes issued after the ordinance took effect; also, payment of principal of equipment notes, if the Public Utilities Commission requires the payment of such notes through the depreciation funds to be suspended without making other specific provision for their payment; also, payments to the city on account of the construction and installation of tracks and poles on the Hopple Street viaduct, but such payments, though made out of the gross earnings, are to be charged as an addition or betterment to the company's property. It is provided that as between the city and the company no charge shall be made to capital for improvements, additions or betterments paid for by the city or from donations to the company or from special assessments against property not owned by the company, but the proportion of the cost of viaducts and of the elimination of grade crossings and other special

assessments which have been or may hereafter be paid by the company are to be charged to capital as additions and betterments.

E. An annual payment of \$416,000 to the operating company as an earning upon the capital invested by it after it came into possession of the leased lines, in addition to the "reducible debt" provided for under sub-division C.

F. An annual payment of \$350,000 to the City of Cincinnati as a tax on the company's gross earnings; also, certain sums required to make up to the city the company's arrearages in the percentage tax due under the old ordinance prior to the date of the new contract.

G. An amount to be fixed by the director of street railroads for the accumulation of an adequate working capital fund.

H. A reserve fund of \$250,000 is to be provided from the sale of securities and all surplus gross receipts remaining after the payments provided for under sub-divisions A to G inclusive are to be added to this reserve fund until it reaches the normal sum of \$400,000. After the fund has been built up to this amount, the surplus gross receipts are to be divided between it and the company in certain proportions, dependent upon the rate of fare being charged from time to time. If the fare for adult passengers is more than 6 cents, the reserve fund will get all of the surplus gross receipts; if the fare is 6 cents, the fund will get 80 per cent and the operating company 20 per cent of the surplus; if the fare is 5½ cents, the fund will get 70 per cent and the company 30 per cent; if the fare is 5 cents or less, the fund will get 55 per cent and the company 45 per cent.

The contract provides that whenever the reserve fund reaches \$650,000 the fares shall be reduced, and thereafter at intervals of not less than three months the fare shall be further reduced so long as the reserve fund continues to grow. Conversely, fares are to be increased when the amount in the reserve fund gets as low as \$250,000. All deficiencies in the payments provided for under sub-divisions A to G above enumerated are to be charged against the reserve fund and are to be taken into consideration in determining the condition of the fund at any given time with respect to its effect upon the fare schedules. Provision is made for published notice for at least one-half month of any change of fares that is to be put into effect. All payments and accruals payable out of gross receipts as above described are to be cumulative in the order named, and the company is authorized to borrow money temporarily to pay any deficiencies under sub-divisions A to F inclusive.

The city reserves the right to acquire the properties under the power of eminent domain conferred upon municipalities by the constitution of Ohio, and also reserves the option to take over the property at any time upon payment of the sum of \$26,238,950; plus any portion of the "reducible debt" outstanding at the time; plus the amount necessary to pay and retire car trust notes issued subsequent to the date of the ordinance and outstanding at the time of purchase; plus the amount necessary to pay and retire the then outstanding securities issued for the reserve fund or for capital expenditures subsequent to January 1, 1917; plus "any and all accrued and unliquidated deficiencies at the time of such purchase in the payments required to be made under sub-divisions A to F, both inclusive"; plus all sums raised and paid by the company prior to the time

of purchase in financing deficiencies in the gross receipts and not subsequently liquidated; minus the balance in all depreciation and insurance funds accrued after January 1, 1917, and held by the company; also, minus all sums paid into sinking funds for securities issued by the company after January 1, 1917; also, minus the sum or sums at the time of purchase in the working capital and reserve funds; also, minus a sum equal to the aggregate amount of payments made and judgments satisfied after January 1, 1917, for injuries and damages occasioned prior to that date. At the time of purchase under this option, the company's cash on hand, its bills and accounts receivable from the operation of the property and its cash from the sale of securities and notes as provided in the contract, will pass to the city, and the city will have to assume all of the company's outstanding contracts and obligations and pay all its bills and accounts payable for obligations incurred under the terms of the agreement.

At the time the Cincinnati service-at-cost plan was put into effect the initial rate of fare should have been considerably more than 5 cents, but as both Mr. Culkins and Mr. Walter A. Draper, Vice-President of the Cincinnati Traction Company, testified, the new scheme was started off with the 5-cent fare as a means of forestalling a referendum which was threatened by interests that were opposed to a higher fare. The rate schedule put into effect at the start provided a 5-cent cash fare for adults, and a fare of $2\frac{1}{2}$ cents for children under 10 years of age other than infants, the latter being carried free. Upon the payment of the cash fare a passenger was entitled to free transfer privileges. In the operation of the flexible fare feature of the contract, based upon the fluctuations in the reserve fund as determined by the cost of service, each successive decrease or increase was to be of $\frac{1}{2}$ cent per adult passenger and of half that rate for children. Tickets for adults were to be sold in strips or packages of 6 and tickets for children in strips or packages of 4, but tickets were not to be sold at reduced rates.

Under the Cincinnati plan the city reserves to itself the control of the service on all of the company's routes, including the right to fix the operating schedules, the type of cars and the transfer regulations and to fix, change and extend routes. The city's right to require extensions and changes in routes is to be exercised by ordinance to the extent that the city council is empowered under this contract, the city charter and the laws of the state to require such extensions or changes. The control of service, except with respect to extensions and rerouting, is vested by the agreement in the director of street railroads, an official whose office is created by the city charter independent of the provisions of the street railway contract. The director is to exercise control by written order, effective 10 days after service upon the company, unless within that time the company files objections to the order. In case objections are filed with him, the director is required to hold a public hearing in the matter as soon as practicable and thereafter to serve upon the company a copy of his decision. All orders of the director against which no complaint is filed, and all of his decisions after a hearing, are to be "final and conclusive and enforceable by the city by an action in specific performance," and the company may defend such an action "solely and only on the grounds that as to orders or decisions involving expen-

ditures for operating expenses the budget or supplementary allowances are insufficient to enable the operating company to perform its corporate obligations, maintain its organization and perform all the duties" imposed upon it under the terms of the ordinance, or that, where capital expenditures are involved, the company, "acting diligently and in good faith and using all usual means to do so," is unable to provide the funds for financing the expenditures required by the order.

The director of street railroads acts as the technical adviser of the city council and of all city officials in all matters within their jurisdiction involving the interpretation of the contract or concerning its application or relating to the quality, quantity or cost of service, and in all other matters within their jurisdiction upon which the city council or the city officials may request advice or information. The director is required to keep himself informed on all matters pertaining to the cost or quality or quantity of service furnished by the company, its receipts and disbursements, its leases, rentals and property, its transfer regulations, its rules, its vouchers of expenditures, its payments made to the city under the contract, and the manner of its compliance with the terms of the contract. If he disapproves of the object of any voucher or expenditure, or of the company's manner of complying with the provisions of the contract, or of the city ordinances, or of the rules or regulations made or decisions rendered under the contract, he is to notify the company and see that the matter is adjusted. The company is required to give the director and his employes access to and facilities for inspecting and auditing "all receipts, disbursements, vouchers, prices, payrolls, salaries of all officers, time-cards, papers, books, documents and property" relating to or used in the performance of the company's duties and obligations. Proposed contracts for the purchase of power and all new and additional leases or franchise grants and agreements for the use of property included within the city's purchase option, and all agreements for the use or sale of power or other commodities by the company must be submitted to the director and will be effective only upon being approved by him in writing.

One of the most distinctive features of the Cincinnati plan is the requirement that the operating company shall submit to the director 45 days prior to the end of each calendar year "an estimate of gross receipts and budget of operating expenses" for the ensuing year, setting forth an estimate of the amount to be expended under each of the general accounts as provided by the uniform system of accounts for electric railways prescribed by the Interstate Commerce Commission. Supplementary estimates for additional expenditures required in operation may be submitted to the director during the year. No operating expenses may be incurred except under these general accounts, and the total amount of the expenditures in any one of the general accounts may not exceed the amount provided in the budget and the supplementary estimates; but, with the approval of the director, budget allowances in any particular account may be increased by decreases of like amounts in the allowances in other accounts. The contract provides that the director, within 10 days after receiving the budget or any proposed supplementary estimate, shall either approve or disapprove it and notify the company of his decision. If he disapproves

it he must give his reasons therefor in writing, and in case the director and the company are unable to agree the matter in controversy is to be submitted to arbitration. The board of arbitration is to be constituted by the appointment of one arbitrator by the director of street railroads, one by the operating company, and the third by the two arbitrators thus selected. If either party fails to appoint an arbitrator within 5 days after notice, the trustees of the sinking fund of the City of Cincinnati are to appoint the arbitrator for the party so in default. If the two arbitrators first appointed are unable to agree upon a third, then the appointment is to be made by the arbitration committee of the Cincinnati Chamber of Commerce upon application by either party. It is to be a rule of the arbitration that sufficient funds shall be allowed to the company to enable it to perform its corporate obligations, maintain its organization, and perform all of the duties of operation and maintenance imposed upon it under the terms of the contract.

The company is required to issue free transfers to enable passengers "to ride continuously from the point of boarding cars to destination," except that it cannot be required to issue transfers that will entitle a passenger to return upon a car substantially to the point of boarding the car upon which his fare was paid or a transfer issued to him. The company's rules and regulations governing the issuance of transfers are subject to the approval of the director of street railroads, and in this matter as in the control of service his orders and decisions are final. As bearing upon the cost of service, it should be noted that the Cincinnati contract requires the company to carry policemen and firemen free when in uniform.

The salaries and expenses of the director of street railroads and his assistants are not treated under the Cincinnati contract as an operating expense. On the contrary, they are paid by the city the same as other municipal salaries and expenses. This is regarded by Mr. Culkins as a weakness in the plan. When asked by Mr. Warren what changes he would make in the Cincinnati plan if he were starting out to draw a service-at-cost franchise just as he would like to have it, a sort of ideal or model franchise, Mr. Culkins says at page 479 of the Proceedings:

"I do not know that I would make any fundamental changes. I think there is a weakness in our ordinance that the supervision is charged to the general taxpayer rather than as a cost of operation. That will always have a tendency to crab the supervision, because cities are always broke. I believe that legitimately ought to be a charge against the car rider, for the service is specifically for the car rider, and you can easily see it differentiates from every other city department."

In his comment upon the provisions of the Cincinnati plan Mr. Culkins lays particular stress upon the provisions for the adjustment of the company's share in the profits on the principle of the sliding scale. At pages 474 and 475 of the Proceedings, he says:

"Based upon our information that the greatest criticism of the service-at-cost ordinance plan was that it tended to produce an inertia on the part of the company, a sort of feeling 'We get ours, now go ahead and tell us what to do'—there is a provision by which the company may participate in this surplus at certain times * * * * So we think we have a piece of machinery in there which makes it always against the interest of the company to have high rates of fare but which enforces from our point of view the necessity of economical operation. Now, it might be said that the company might impair the service in

order to get that, but the city retains absolute control. To my mind that is a very vital feature of this ordinance. The city maintains that control over the operation of the company, over its finances, over its service, over its investments, and that control, with the exception of three particulars, is vested in the director, in one man, with a view of centralizing the responsibility. He is not only made responsible for that, but he is made responsible wherever any other department touches this company, that the company need only to go to one man and then it becomes his duty to take it to the proper place. The matter of extensions, re-routing and further franchises is vested in the city council, but they are required to refer the matter to the director for report and recommendation before they take any action on it."

In a letter to the Commission, dated January 29, 1920, Mr. Culkins says:

"The experience of Cincinnati for the first fifteen months of operation under the service-at-cost franchise presents some features of interest in connection with the problems before the Commission.

For this period the cost of service per revenue passenger and the gross receipts per revenue passenger, in each month, was as follows:

Month	Total Income	Cost of Service	Surplus	Deficit
October, 1918	5.11	6.56		1.45
November	5.13	6.20		1.07
December	5.11	6.76		1.65
January, 1919	5.73	6.94		1.21
February	5.69	6.99		1.30
March	5.63	6.89		1.26
April	6.09	6.84		.75
May	6.09	6.56		.47
June	6.10	7.22		1.13
July	6.71	7.39		.68
August	6.76	7.09		.33
September	6.74	7.05		.31
October	7.04	6.79	.25	
November	7.03	7.02	.01	
December	7.08	7.07	.01	

"It will be seen that the proper relation between the variations in the cost of service and the rates of fare did not exist for a considerable portion of the period.

"The experience of the earlier months of 1918 showed that the cost of service per revenue passenger, readjusted to the new ordinance conditions at the time of passage, would be 5.76 cents, but for reasons of expediency the initial fare was placed at five cents (5c). In the months of October and November the epidemic of influenza reduced the traffic to a great extent, and in December a War Labor Board order became effective, greatly increasing the wage scale.

"The automatic provisions of the ordinance limited the increase of fares to one-half cent ($\frac{1}{2}c$) at intervals of not less than three (3) months.

"Other unforeseen expenses were encountered from time to time, including another increase in wages under the order of the War Labor Board in May, a new contract with the union in July, a coal shortage in August, and a large amount of additional track reconstruction made necessary by the improvement of city streets. As a result, each period showed additional increases in the ever growing deficit.

"In October, 1919, the fares reached seven cents (7c.), which was sufficient to provide for the current cost of service, but deficiencies had piled up amounting to about approximately \$1,700,000, and under the provisions of the ordinance, fares must continue to increase until this deficit was liquidated. This would have meant an ultimate fare of nine and one-half cents ($9\frac{1}{2}c$), or two and one-half cents ($2\frac{1}{2}c$) more than the cost of service in October. Fares would be too high and an abnormal condition to the reserve fund would ensue, further disturbing the symmetry of the plan.

"To avoid this, as well as a further increase in fares, the company, with the authority of the city and the Public Utilities Commission of Ohio, issued securities in order to spread out the payment of the deficit and avoid the abnormal burden upon the car riders in a single year. The question of probable loss of traffic and other effects of the increased fare were also considered, both by the company and the public officials, who recognized that an unusual condition in unusual times called for unusual treatment.

"Two features are outstanding in the Cincinnati experience:

"First—The initial rate of fare should be sufficient to provide the cost of service.

"Second—Provision should be made for adjusting the rates of fare to any abnormal increase in expenses which might be classed as an unforeseen contingency.

"This would suggest a large initial reserve fund, or some device for quick adjustment

and readjustment of fares in cases of emergency. The difficulty about a large reserve fund is that in most cases the companies may be unable to provide it by sale of securities. In some cases the state or local laws may make the provision difficult, but in any model service-at-cost ordinance this situation should be provided for.

"In other respects I have no occasion to change the view expressed to the Commission that the Cincinnati plan offers the principles upon which the street railway problem may be solved. The public has taken to it kindly and the loss of traffic due to increased fares, in my opinion, has been less than in other cities."

Mr. Walter A. Draper, from the company's side, is quite solicitous for some reward for the holders of common stock. The Ohio Traction Company is the holding company for the Cincinnati Traction Company, which, as the lessee of the Cincinnati Street Railway Company and the Cincinnati and Hamilton Traction Company, is the operating company. Referring, apparently, to the holding company, Mr. Draper testified that the \$7,500,000 of common stock outstanding, technically described by Chairman Elmquist as the "hope" stock, was issued practically to take up the discount at which the preferred stock was sold. He said that under the Cincinnati contract the common stockholder was given some hopes of participation in profits, but not enough. At page 505 of the Proceedings, he says:

"This incentive, this division, that might remain after the requirements are taken care of, was one of the things that we discussed more than any other one point with the city. We insisted that there should be some consideration given, no matter what the rate of fare was; that if the rate of fare went up, it was not our fault, under this plan, but it was due to conditions, and that we were entitled to consideration with a high rate of fare, the same as we were with a low rate of fare, at least something; but in order that we might be given this spur to try to get fares down by economical operation, we recognized the fairness of getting less in case the fare was high than we would get in case the fare was low."

As to the general importance of incentive and as to the deserving character of the common stockholder—the man of vision—Mr. Draper has very decided views, as will be seen from the following testimony found at pages 499 and 500 of the Proceedings:

"It is true that a service-at-cost franchise, offering an almost certain return, makes it more easy, or at least possible, to borrow money. But bankers have always taken into consideration not the question whether a concern can just live—just manage to make ends meet—but rather how much margin, how much over the bare living it can make. And this question of banking and getting new money is a vital one. Not only has the question to be solved as to how street railroads are to make their operating expenses, but how are they to pay interest on borrowed money in the shape of permanent investment or bank loans. Actual experience under the Cincinnati franchise has demonstrated that the banker begins to take more interest when he is shown that in addition to a fixed low interest rate that is practically assured, the company can do even a little better by careful and attentive management. When it comes to marketing securities, those paying a fixed return of six per cent will not sell so well as those that have at least some show of paying a fixed return of six per cent and then something more. But six per cent is not now a sufficiently high return. If six per cent must be written in the franchise then let there also be written therein that an additional one or two per cent can be earned by hard work. If the fixed return is just enough to meet the dividend or interest on a senior security, let the possible additional return go to the common stockholder, who under a service-at-cost franchise is pretty apt to be left at the dock when the boat pulls out because there is no room for him. And don't forget that the common stockholder has played his part, if not the important part, in the development of street railroad enterprises. The senior security holder is the banker. The common stockholder is, or was, the prospector, the pioneer, the builder—the man with the vision.

"Those who operate street railroads have not lost, and it is to be hoped, never will lose their ambition to operate as economically and efficiently as possible; and yet, because we are all still human, there is needed an addition to the desire to make a showing, the spur of real financial benefit. Under a rigid service-at-cost franchise the company really becomes a sort of clearing house for the money it takes in. It pays the employes, then the tax gatherers and then the senior security holders. This takes it all. Justice and good business sense

dictate that there should be at least a small commission paid for all this work. It will add zest to an otherwise flat existence. *Operating under a service-at-cost franchise without some added incentive would be a good deal like asking an old gambler to play poker for fun and not for money.*"

The last sentence, which I have italicized, almost "lets the cat out of the bag." It indicates that the common stockholders in the electric railway field want both security and a speculation. Mr. Draper is, perhaps, on safer ground at pages 500 and 501 of the Proceedings, where he says:

"There is another potent argument for providing this incentive and that is the tendency of the public to feel that if the company is practically guaranteed a certain return and can get no more, it will be indifferent to how high operating costs and fares may go, and will readily 'pass the buck' to the city in matters of higher wages or any other element likely to affect fares on the very comfortable theory of 'Why should we care? Let the men get higher wages, so long as the car rider pays.'

"In a recent discussion of the wage question with our employes, the main interest the public took in the matter was whether we wouldn't give in without much pressure because it would all go into the rate of fare. In fact, some people declared that we were in league with our men to get the rate of fare up and hold it there through their asking for higher wages and our quickly granting the demand. When they were informed that it was to our interest to keep fares below six cents, as we would then receive an additional allowance, they saw things differently."

Another point of criticism of the Cincinnati plan was the fact that it was inaugurated at a five-cent fare when the cost of service as defined in the agreement was known to be more than five cents.⁵ Mr. Draper also has his doubts about the budget plan. Upon this point he says, at pages 505 and 506 of the Proceedings:

"We felt that the matter of the budget is something that is a little more theoretical than we would like to see it. It is almost impossible to anticipate as far ahead as we have to under this franchise, what our expenditures are going to be.

"Commissioner Sweet: But there is some elasticity in that, as explained by Mr. Culkin, is there not?"

"Mr. Draper: There is some elasticity, but notwithstanding that there is a feeling on the part of the director and city administration, that by the very fact that we are asking for an additional allowance, we are not operating quite as economically and carefully as we should, unless it does have some specific thing, take, for example, the increase in wages. Of course, you can measure that very accurately."

On the general subject of the need for incentive, Dr. Milo R. Maltbie takes strong ground. At pages 2093 and 2094 of the Proceedings, he says:

"The most important thing, it seems to me, to be kept in mind in framing any new plan to be considered in the situation as it now exists is that there must be some provision made, in any plan, which will furnish an inducement for efficiency. In other words, if any plan, whether it be a limited term franchise or an indeterminate franchise, or a cost-of-service franchise, or no franchise at all, with just a local consent to operate, subject to regulation in every instance, unless some provision is made whereby inefficiency will be punished or suffer some loss and efficiency will be rewarded where it exists, the tendency will be toward stagnation; and public regulation and control has to labor with this problem as well as anything else; because the tendency will be, of course, to meet the demands. If it does not make any difference to the operators of a company whether they pay high prices for materials or not, the tendency will be not to give that subject any particular attention. They will pay the high prices. If there is no reward for purchasing materials when prices are low, and no punishment for purchasing materials when prices are high, the inevitable result will be to purchase in more or less of a haphazard way and to pay high prices.

"In the same way, if there is no incentive to efficiency, politics is apt to come into the situation, in not the way which is usually referred to, but in a different way, which is just as effective, as far as that is concerned, in bringing bad results as it is in the old-fashioned way; but if control and management does not get its reward or its punishment, as the case may be, the political parties will be apt to use a private corporation as a means for locating their benches."

Professor Edward W. Bemis, appraisal engineer and consulting public utility expert on the public side, finds considerable to criticize in the service-at-cost plan, although he was associated for many years with Tom L. Johnson in Cleveland and more recently had a hand in the preparation of the Dallas service-at-cost franchise. His testimony, at pages 2113 and 2114 of the Proceedings, is as follows:

"I find serious difficulties with a service-at-cost plan, although it looks so good in theory.

"The Chairman: In both cases you mentioned, had you supported the service-at-cost plan?"

"Mr. Bemis: Yes. The plan, as I think, works out pretty well in Cleveland. I think not so well in Dallas, where the valuations that were finally accepted, I believe, were somewhat higher than originally planned.

"The great difficulty with the service-at-cost plan is in getting a good valuation to start with. The public are not yet sufficiently educated on the subject of valuation to know just what it means and there is a great danger of fastening on the public a valuation that will be too high and which will be very difficult to get away from.

"There is also danger that a service-at-cost plan will require a fare higher than the social welfare of the community may demand and which could only be gotten around by subsidizing the road or by direct municipal purchase and operation. But you are tied almost to a higher fare under a service-at-cost plan while it lasts, as in Boston today. I think very often we are in a situation or would be under public management such as Director Hines called to the attention of the Government not long ago when he thought a rise of freight and passenger charges, particularly of freight charges of the railroad, today, \$300,000,000 would mean an increase of charges to the public of several times that, as the charges were passed along. He thought it might be better to have taxation bear that burden than to raise the fares. He made that in an official communication to Congress, you may remember.

"But the service-at-cost plan ties one down rather closely to a fare which might, if things keep on as they have, become too high in some cases, although maybe not in all.

"I think, too, that the service-at-cost plan requires, as in Cleveland it has secured, a home rule different from regulation by state commission. I think it needs to be closely in touch with the people and when it is it has its best chance of success, because it then tends to produce that cooperation which there has been in Cleveland between the city and the railway in effecting many economies and preventing many costly attacks on the road, in excessive pavement charges or excessive awards by juries in damage cases and many other ways; permits for turnouts and curves and so on, which really are very beneficial often to the company, and which the city can give without much cost if it feels in a friendly attitude. But there are these difficulties of high valuation and fixed fare, a fare I mean fixed as to its base.

"And, of course, our cities are hesitant for another reason: It seems to them to forfeit the benefits of the franchises which they are now enjoying. The moment the shoe pinches that is where the companies are suffering from their rigid adherence to the franchise when they were gaining; when they were making a good deal of money from the franchise they were enjoying, they would not listen to a modification, and now they are suffering the penalty that the cities feel that they should not make concessions which the companies had refused to make years ago. That may not be quite a proper position to take, but it is a very natural one.

"Of course, we still have to face the question, if the cities adhere to that, how the companies are going to get any money for extensions, which is after all the greatest problem perhaps before even our larger and better companies, which are earning, it may be, a fair return on the actual investment but have capitalized so much beyond that.

"I do not know of any plan for issuing any underlying securities that would precede the present bonds and enable companies to finance extensions where they are, as is often the case, bonded up to the full value of the property, and sometimes more. Bonds have even been issued to buy stock in consolidations.

"That difficulty is going to force the roads either into reorganizations or city purchases. There may be some better method found or some other method, but I do not see just how it can be found unless the roads are so very prosperous that they can float more securities without reorganization."

Mr. Morris L. Cooke's comment upon the service-at-cost plan is found at pages 1692 and 1693 of the Proceedings, as follows:

"At least theoretically we are all for some kind of a 'cost-of-service' plan. But I am opposed to the kind which has been principally stressed before this Commission, first because it will have a tendency to validate excessive valuations, and second because it will inevitably capitalize inefficiency.

"The proposal is quite comparable to the profit sharing schemes so strenuously urged

now as a cure-all for industrial disorders. Labor is not a bit interested in profit sharing, because labor has no confidence that it understands the rules of the game, and has had no hand in developing those rules. Any cost-of-service plan initiated now would rest in most instances on a discredited financial base and be operated under accounting methods designed for an altogether different purpose than the one which I take it we all have in mind now, that is, the service of the public."

I have already quoted Dr. Maltbie's testimony upon the need for an incentive to good management under any scheme that may be adopted. He is quite critical of the service-at-cost plan to the extent that it is based upon a contract with fixed terms and is put forward as a substitute for continuous public regulation through the exercise of the police power. He calls particular attention to the arbitration of the rate of return in the Cleveland contract, and takes the position that service at cost has not been tried long enough to prove its merits as a scheme for adoption generally as a means of solving the electric railway problem. His testimony on these points is found at pages 2102 and 2103 of the Proceedings, where he says:

"Now, there is one other feature, as to the cost-of-service franchise, that I would like to call to your attention and that is this: That a result of the adoption of the plan is to make the relation between the city and the company one of contract and not one of police power. Of course, the basis for the regulative power which exists in the legislature and which may be delegated to an administrative body is the sovereign power of the state. And, of course, historically it goes away back to the old Inn cases in England, and that power as I understand it cannot be irretrievably delegated to someone else, it cannot be contracted away, but always remains in the state in some form, either the legislature or the courts or an administrative body.

"Now, if you substitute for regulation a contract or a paper—we will not call it a contract for the moment—a paper which attempts to specify all of the things that are usually covered by regulatory orders or by statutes, you have substituted a contract for a sovereign power or for the police power and it makes and establishes a more or less ironclad, unchangeable paper which has practically all of the qualities of the contract or else what is attempted to be covered in many cities by a cost-of-service plan.

"Now, the trouble with a contract to cover these points is in the first place that it becomes entirely out of date. We have seen that happen again and again. And one of the difficulties of the present situation is that the contracts that have been made in past years are not applicable to the conditions that exist, and while they might and perhaps did do very well for the time and for some time after they were made, they have become inapplicable to the conditions which exist at the present time and consequently break down in some provision or another.

"Mr. Eastman referred to the fact that when you have a contract as a statement of the relations between the public on the one side and the private corporation upon the other, the general result is that that contract is modified when the company wants it modified and not when the city wants it modified. If it is a contract, you have to get the assent of both parties and if the company does not want to modify it there is no way under heaven that you can compel it to modify it, if it is a contract. Whereas, under regulation, if a public service commission makes a mistake * * * * because its orders are not contracts, it can be repealed or modified or changed at any time. But if you get a contract drawn up between a private company and a municipality that cannot be modified except with the consent of both parties, and if the municipal authority makes a mistake the shrewdness of the management of most utilities, human nature being the same the world over, will lead them to take advantage of that, whereas, if the city wants that contract changed, it is not so easy to get it done.

"Whether a cost-of-service contract can be worked out which will protect all of these points, I am not at present prepared to say. But reference has been made to the Cleveland franchise and for the purposes of the record, I think your attention ought to be called to the fact that at the present time there is proceeding in Cleveland an arbitration to determine whether the rate of return shall be raised to 7 per cent or not. Now, there probably is not any more important thing in a cost-of-service franchise than the rate of return. And if a company and a city make a contract that the security holders that have put in their money are entitled to a 6 per cent return on the money they have put in, and then in less than 6 months you proceed to arbitrate the question of whether they shall have more or not, you are going to the very vitals of the contract. And if you can arbitrate the rate of return in a cost-of-service franchise I do not know what there is in the franchise that cannot be arbitrated. Well, if you can arbitrate the whole thing and every provision in it, it simply means this, that

you make a contract or what is called a contract and then you leave it to three persons to be chosen at some other time to decide every provision in that contract. Now, that is not regulation, because those arbitrators are not regularly elected public authorities. They are persons who are chosen outside. And if you are going to leave every provision in a contract to be arbitrated in that way it is not a contract any more, except as there may be some restricting clauses to the extent of what may be arbitrated.

"Whether six per cent is right or not, I do not undertake to say at this time, in the Cleveland situation; but merely to point out that the basis for the claim that they should have seven per cent instead of six per cent, is that conditions have caused six per cent not to be a fair rate of return, and that, in fairness, they ought to have seven per cent.

"Well, that is an illustration of what I said a few moments ago, namely, that a fixed contract which undertakes to provide all of these things is a thing that may become very ill adapted to the conditions which exist in later years. Personally, I do not believe the success or failure of these cost-of-service franchises can be determined by one year's or two years' or five years' experience. When we have been through these war-time conditions, and the conditions that are going to obtain in the next few years, we will have a pretty definite idea whether those franchises are good or whether they are not good. The question is going to come as to whether they are suited to the conditions that change from time to time or whether they are not."

Mr. Carl H. Mote, then Secretary of the Indiana Public Service Commission, comments upon the service-at-cost plan at page 1094 of the Proceedings, where he says:

"The so-called service-at-cost program is actually the program we are supposed to follow under the public service commission law of Indiana, and for that reason we hear nothing about it in our state. I am not familiar with the origin of the phrase but I imagine its inception could be traced to some municipality where the electric railways were overloaded with fixed charges and where it was designed to produce sufficient revenue to meet exorbitant fixed charges as well as actual operating expenses, including maintenance and depreciation. Service at cost involves, first, a correct valuation of the property. There is no means of knowing what the cost of electric railway service is, unless this basis is known. I should think cities, without facilities for ascertaining valuation, might be led into a position of agreeing to provide a return on excessive valuation, in which case there would not be service at cost at all, but service at an excessive cost. To me, the phrase represents merely a straining to name a process or a theory already in practice in Indiana."

Since Mr. Mote testified, the City of Indianapolis has come forward with the suggestion that a service-at-cost plan, with a flexible fare between certain limits, be put into effect by the Indiana commission by an order relating to the Indianapolis Traction and Terminal Company during the emergency recognized by the commission—that is to say, until conditions return to normal so that the obligations of the existing city franchise, temporarily suspended, will come into force again.⁶

That a service-at-cost plan adapted to one community under one set of conditions might not work out well in another community under another set of conditions is apparent by a comparison of Cleveland and Boston, or for that matter Cleveland and Cincinnati. It is also apparent from the contrast between the conditions in Indiana, as described by Mr. Mote, and those in at least portions of New England, as described by many witnesses. For example, Chairman Richard T. Higgins, of the Connecticut Public Utilities Commission, at page 1109 of the Proceedings, says:

"Something has been said about the question of service at cost. Theoretically that is sound, and is the policy that our commission have tried to follow; but practically there are certain obstacles to its working out as an absolute theory. Street railways are critically ill and they cannot be revived and put upon a sound basis over night. If the service-at-cost policy were to be adopted, in my opinion, and a rate established high enough to meet the operating expenses, fixed charges and overhead charges and pay a fair dividend upon the capital or the value of the property as the case may be, the rates of fare would necessarily be so high as to be prohibitive, where you have got unrestricted and unregulated competing transportation agencies."

Mr. William D. B. Ainey, Chairman of the Pennsylvania Public Service Commission, was asked whether he or his commission had given any consideration to the service-at-cost plan. He replied in the negative, and was quite unwilling to express an opinion about it, but upon being pressed made this indirect comment, which appears at page 1404 of the Proceedings:

"I have not gotten to the point of where I believe the public will get the best service except that the initiative for that service is in the hands of private interests, largely uncontrolled, except to the extent that it must at all times be a reasonable service, and must be at a reasonable rate. I have no reason to doubt that the present methods are adequate, in Pennsylvania."

In his testimony Chairman Ainey referred with a certain amount of admiration to the Mitten management of the Philadelphia Rapid Transit Company, and it is quite possible that his apparent predisposition against the service-at-cost plan may have been based in part upon his observation of the Philadelphia situation. At any rate, Mr. Thomas E. Mitten speaks out quite positively against the service-at-cost plan, as will appear from his statement at page 1516 of the Proceedings, as follows:

"The so-called service-at-cost plans are already proving a disappointment, for the reason that neither men nor management are paid according to the excellence of their work.

"Boston is one example where expenses have mounted skyward and no fare, possible of collection, has been found sufficient to meet the added cost of production.

"Cleveland has already nullified Tom Johnson's accomplishment of sweating profits from the owners and thus reducing rentals, by showing an inability to now produce its very short ride at 5 cents without charging an extra one cent for transfer. The City of Cleveland paves its own streets and in addition pays its street railways in money for services sometimes required to be supplied gratis by the street railways in other cities. The public of Cleveland stands for much latitude in operating methods, in order to keep the fare down, while the contest between the men and the management as to which should get added compensation first, goes merrily on—SURELY THE ANSWER LIETH NOT IN THIS DIRECTION."

Curiously, Mr. James D. Mortimer, who has been operating the Milwaukee street railway lines for many years under practically unrestricted state regulation, combines Cleveland and Philadelphia in his condemnation for rendering service below cost, instead of at cost, evidently sharing with other electric railway men the chagrin felt by the industry as a whole in having to explain away the 5-cent fare under war conditions in these two cities. Mr. Mortimer, at pages 780 and 781 of the Proceedings, makes the following criticism of "some" of the service-at-cost plans:

"Some of these service-at-cost franchises are defective in two important respects.

"First, there is no guaranty of the integrity of the capital. The franchises on their faces provide for a diminishing capital account. In other words, they make no adequate provision for the accumulation of reserves against the future replacements of the physical property. They require usually the creation of reserves only in sufficient amount to take care of current replacements, and in the Cleveland so-called cost-of-service franchise, if they encounter an extraordinary replacement, that is carried as a suspended asset and written off over some agreed period of time. In other words, there has been a number of years in which the Cleveland Electric Railway was financially insolvent, and an examination of the balance sheet would have disclosed that.

"That is touched on in considerable length in Doolittle's book on a study of the Cleveland problem."

"The second defect in these cost-of-service franchises lies in the fact that the cost of capital is continually changing, and there is no provision made for the determination, at the time, of the return that is to be allowed upon additions to capital account."

Dr. Dugald C. Jackson is of the opinion that inflexibility in rate of return to capital is the major defect of the service-at-cost plan as now advocated. He

evidently has the Boston plan particularly in mind. At pages 1418 and 1419 of the Proceedings, he says:

"The introduction of supervision by public utility commissions was essentially a move which, uniformly and fairly applied, would result in providing good service at cost, when a fair return on the investment is included as part of the cost in addition to the ordinary daily out-of-pocket expenses. At the same time it affords opportunity for a street railway operated with particularly able, foresighted management and giving notably good service to profit through receiving a larger return on its investment than the average for the industry, as the state commission has a certain range over which they may within the satisfaction of the public allow returns.

"The present slogan for service at cost adds to this the additional feature of guaranty by the taxpayers of a return on the investment, associated with operation under public authority. This addition has been adopted in certain instances, but it is facing considerable criticism, and however good it is, is going to fail also from inflexibility if the actual return on the investment is fixed at the upper level and cannot be modified as changing conditions in the value of money progress. There must be the same flexibility from the standpoint of return on the investment as there is from the standpoint of wages and other things, in order that the projects can be maintained and extended as the city requirements require.

"Commissioner Gadsden: Won't you develop that thought just a little, the necessity for keeping the return on the investment flexible?"

"Mr. Jackson: Professor Irving Fisher, part of whose statement I heard, gave you an illustration of the difference between the market for bonds and the market for stocks under different conditions, and I think either he or perhaps one of the commissioners brought out the fact that where one has service at cost with a fixed return to the property holders one practically puts the stockholders in the aspect of bondholders under ordinary conditions, because they have a substantial guaranty from their communities that they shall get so much and after that they do not get anything more. Now, that is very good for the time the adjustment is made, and it may be good indefinitely, but with the very wide changes of conditions which are occurring in this country and also in the world the rates at which money may be obtained vary. We used to think that without peradventure the rate at which money could be obtained was going to fall in this country and would continue to fall. It was lower in the European countries, the great centers of money capital of Great Britain and France and Germany, and we thought we were in the direction of coming to somewhat similar rates for money which would be put into enterprise. But as an actual fact the war upset that and consequently our judgment as to what the future would be was all wrong. Not only has the rent of money increased in this country but it has been changed entirely in all the European countries. It has increased greatly. Whether that increase is going to remain it is very difficult to say. It depends upon some of these considerations that Professor Fisher put before you and which are so large that I have not very much confidence in their being settled as promptly as he seemed to hope. In other words, we are in a period and are going to remain in a period in all probability of uncertainty in regard to how much return a man who has a dollar and is willing to put it into a street railway will receive.

"The Chairman: Would you favor changing the return on the bond?"

"Mr. Jackson: No, I would not favor changing the return on the bond because that is an agreement that was made, and when a man makes a contract he ought to be expected to stand by it under such circumstances. * * * * When a return on a bond under a particular mortgage becomes less than that at which people are willing to let out their money, a company having fixed the rate by means of its mortgage, a company sells additional bonds either at a price materially lower than par, so as to raise the return and mend the market situation or else it fails to sell bonds. If the return is larger than seemed necessary to get the money, they may do something in the way of refinancing so as to issue additional bonds if they wish to issue bonds under a new mortgage with other provisions in respect to return.

"Now, with the fixed return of the stockholders one is in the situation where he cannot sell to vary the return as you can with a bond. Although the return on the par may be fixed by the mortgage, by selling at different prices below par you can vary the return. But if a stock must be put out at par for money and you have a fixed return it is absolutely inflexible, and this process therefore puts the stockholder in a situation that is even less flexible than the bond contract of old as to the bondholder."

Dr. Jackson assumes that capital stock must be issued at par. He does not even suggest the possibility of its being sold for the best price obtainable under public supervision. He does not think that the issuance of non-par stock would solve the problem. After referring again to the fixed return on the investment under a service-at-cost plan, he says at page 1420 of the Proceedings:

"I think it is the only major disadvantage, and if that can be corrected so as to protect the public and at the same time play fair with the stockholders I believe that the cost-of-

service plan is quite a desirable one, although I also believe that for most instances it ought to be operated under supervision of state commissions rather than separate commissions, because the average city is not large enough to maintain the necessary supervisory staff."

Mr. Henry G. Bradley, President of the Stone and Webster Corporation, favors some kind of a service-at-cost plan as the arrangement most likely to satisfy the public, as will appear from his testimony at page 212 of the Proceedings:

"In general, we believe that the service-at-cost franchise is working in the right direction and we believe that some plan of this sort, something which is a distinct departure from former methods, is an essential to restore credit. There must be something definite and something radical done in order to change public sentiment, and the best solution from the standpoint of relations with the public that we have seen suggested is the service-at-cost franchise in some form."

Mr. Luther R. Nash, also of Stone and Webster, gave extended testimony in analysis and criticism of various service-at-cost plans that have come into effect or been proposed. He is quite in favor of the exercise of the public supervisory powers by the state commissions, even under service-at-cost contracts, and incidentally approves of that feature of the Massachusetts general service-at-cost act. At pages 664 and 665 of the Proceedings, the following appears:

"I have said in this paper that I thought it would be desirable that the supervisor should be a man preferably of technical education, or else a man of broad business experience, who should be appointed by the state public service commission, and perhaps act as the agent of the commission, instead of supervision under the service-at-cost franchise being independent of the state commission. This plan of state commission appointment would have this advantage, if the service-at-cost plan becomes widely extended—

"Mr. Warren: That is the Massachusetts general statute plan, is it not, which was adopted last year?

"Mr. Nash: I so understand.

"While that plan has not come into general use at all as yet, because of the unfavorable financial conditions, this general Massachusetts plan provides that for each service-at-cost company, or at least a group of nearby companies, the state board shall appoint a supervisor, who has special charge as the agent of the commission of these companies.

"Mr. Warren: Those unfavorable financial conditions are due to the fact that the Massachusetts act requires the barometer fund, and also a rehabilitation fund, I think.

"Mr. Nash: To be set up in cash in advance.

"Mr. Warren: And raised through the issues of securities?

"Mr. Nash: Yes; that is the real trouble.

"Mr. Warren: The companies have not found themselves able to secure the credit necessary to issue securities; is not that true?

"Mr. Nash: That is true.

"The effect in any state of a large number of service-at-cost franchises under such a plan of supervision would be that the state commission would be able to train a body of supervisors, more or less in the way that our diplomatic corps is or ought to be trained—taking young men and educating them in the office of the commission, sending them out as supervisors of the smaller properties, and gradually transferring them to larger and larger positions of responsibility, with their increase in experience; so that in the end there would be developed a body of specially trained supervisors to have charge of this class of public service."

Mr. Nash's suggestion as to how this cost of supervision may be kept within reasonable bounds is found at pages 675 and 676 of the Proceedings:

"The Chairman: * * * * It appears that the cost of public supervision must be borne by the utility.

"Mr. Nash: I think so.

"The Chairman: Might not that prove very burdensome to the utility, in the case of small plants?

"Mr. Nash: It might, of course, but I think that the supervision might be so adjusted by having a joint supervisor for a number of such small plants, who would not spend all of his time on any one of them—a supervisor, as I have suggested before, appointed by the state commission and responsible to them, dividing his time over an appreciable number of

small plants. I think that is quite true, that a very small railway would not need the attention, the entire attention, of even one supervisor, and other large systems will require not only the entire attention of one man, but of a subordinate staff of engineers and accountants."

Mr. Nash's testimony is interesting from several points of view. With respect to the valuation in service-at-cost franchises, he says at page 665 of the Proceedings:

"In my opinion, the actual investment, honestly and prudently made, to use the words of the Massachusetts commission, is the most logical basis for determining the return to investors. That, in these franchises, is also the basis of the city purchase, which is a feature of nearly all of them, with, in most cases, the addition of a small percentage to cover costs of liquidation and the procuring of money, where not otherwise provided for in the plan.

* * * * *

"In the majority of cases, I think the valuation has approximated at least the actual investment of the properties, where it has been possible to determine that. In a few cases, a depreciated value has been accepted, but these have been cases where the franchises have expired, or, for other reasons, the railways were not in a position to strenuously contest the values which they thought were too low."

Mr. Warren and Mr. Nash agree, as all the witnesses do, that this determination of the investment or rate base is essential to any service-at-cost plan, as will be seen from the following testimony at page 469 of the Proceedings:

"Mr. Warren: But in every case there lies at the entrance upon this plan a determination by agreement or in some way, ultimately by agreement, I suppose, as to what that rate base or so-called value of the property shall be.

"Mr. Nash: That is one of the essentials of the service-at-cost plan."

Mr. Nash agrees with those witnesses who regard the purpose of regulation by state commissions as essentially the same as the purpose of these service-at-cost contracts, but points out that the essential difference is one of procedure, and here the primary difference lies in the automatic feature of the service-at-cost plan by which rates of fare go up or down according to the state of the "barometer" fund, without waiting upon the slower processes of commission regulation. On these points Mr. Nash testifies at page 467 of the Proceedings:

"The purpose or scope of service-at-cost franchises is not at all dissimilar to that of the regulation of the public service commissions. It involves the determination of all the elements of cost of service and adjusting the fares to that cost. The elements of cost include the return on the capital invested which the investors demand for the use of their money, the ordinary expenses of operation, the upkeep of the property or a provision for its depreciation, taxes and the creation of such reserve barometer funds, and in a few cases amortization, although I do not consider amortization any part of the proper cost of service. Those are the fundamental elements which enter into practically all of these service-at-cost franchises. Not all of them carry out fully the service-at-cost plan. The early ones had a fixed fare which was assumed to be higher than the cost of service, with a provision that the surplus yielded by this fixed fare in excess of the cost of service would be divided between the city and the railway. But the later forms have an automatic adjustment of the fare to the cost and that automatic feature I consider the essential difference between the operation of a service-at-cost franchise and the regulation of railways as practised by the state commissions.

"I think one reason why the service-at-cost plan has become popular is because of this automatic feature. It has been the experience of a good many railways in taking cases before public service commissions, even where these commissions have full authority to act, which they have not in many cases, that action has been slow. I have been concerned in a number of rate cases myself where, with a comparatively free slate, the commissions have held cases under consideration for the major part of a year before rendering a decision, even when the condition of the railway, its needs of additional revenue, were perfectly obvious.

"As an alternative, any plan of procedure which would automatically increase or decrease, so far as that is concerned, the fare as soon as the need developed is and should be welcomed by the electric railways."

Mr. Nash concludes from the testimony of Mr. Stanley and Mr. Culkins that increases in fares in Cleveland, Cincinnati and possibly other places where

service-at-cost franchises have been in effect have occasioned little reduction in riding as compared with cities where fares have been increased by negotiation or commission order. At pages 663 and 664 of the Proceedings, referring to this traffic loss under the 6-cent fare, he says:

"I think that loss arises almost entirely, not because the car riders cannot afford to pay the additional cent, but because of the agitation and resentment arising in connection with the negotiations for the increase. City councils, city officials, where an appeal is taken to a public service commission for an increase of fare, always feel it incumbent upon them to protest the increase, and the public press and professional politicians take that opportunity to very loudly and at great length express their opinion of the public utility that would impose additional burdens upon the poor working people. The result of that is bound to be a large amount of popular attention to the subject and a lot of misunderstanding, and consequent resentment, without which I feel quite sure—and the testimony before the Commission has borne it out—that the reduction in riding would be comparatively small. In other words, the operation of the service-at-cost franchises tends to minimize the unfriendly public relations, and yield revenues from fare changes that should, under normal conditions be yielded—the kind of increases in revenue that actually take place in private business, where, as a matter of course, the charges for commodities have increased in these days as the cost of the commodities increased.

"So that I think that that feature of the service-at-cost franchises is of very particular importance."

This is a matter of primary importance, as it bears upon the fundamental problems of public cooperation and the ultimate earning power of the electric railway business under increased rates. Fortunately, we have certain figures in the table presented in Chapter XXVIII of this report which may tend to throw light upon Mr. Nash's conclusion. We can compare the first nine months of 1919 with the first nine months of 1917 in the case of Cleveland, Cincinnati, Youngstown, Montreal and Boston, where the rates were increased under service-at-cost plans without reaching the top limit, with certain other communities where the rates were increased by other means than barometer funds under service-at-cost agreements. The following figures seem to indicate that Mr. Nash's conclusion was a verdict of hope, not clearly sustained by the available evidence:

<i>City or System</i>	<i>Per cent Increase</i>		<i>Change in Traffic.</i>	
	<i>in Average Fare Paid</i>	<i>Per cent Increase</i>	<i>Per cent Decrease</i>	<i>Per cent Increase</i>
Cleveland ¹	54.12	....	2.53	....
Detroit (City Lines)	31.68	1.85	....	....
Milwaukee	17.64	9.08	....	....
Cincinnati ¹	23.12	....	1.90	....
St. Louis	20.00	....	0.77	....
Indianapolis	17.37	10.39	....	....
Baltimore	21.23	14.22	....	....
Youngstown ¹	17.19	....	3.14	....
Toledo	30.65	....	4.00	....
Montreal ¹	17.11	4.61	....	....
Boston ¹	70.36	....	15.47	....
Pittsburgh	29.98	....	12.73	....
29 Cities ²	17.80	6.65	....	....
15 Cities ³	41.77	....	7.54	....

¹ Operating under service-at-cost contracts.

² Cities or systems in Class C as shown on Tables IV and VI in Chapter XXVIII of this report.

³ Cities or systems in Class D as shown on Tables IV and VI in Chapter XXVIII of this report.

It is noteworthy that the increase in traffic during this same period was 15.08 per cent on systems where fares had not been materially increased. The only service-at-cost city showing an actual increase in revenue passengers for

this period is Montreal. In all of these service-at-cost cities, except Cleveland, the average fare paid after October 1, 1919, has been higher, and in some cases a good deal higher, than the average for the first nine months of 1919. The Montreal average fare went up from 4.79 cents to 5.84 cents; the Boston fare went up from an average of 8.5 cents to 10 cents straight; the Cincinnati fare went from an average of 6.2 cents to a little over 7 cents; and the Youngstown city rate went to 8 cents cash, with 7 tickets for 50 cents, on January 1, 1920, as compared with an average of 6 cents for the entire system of the Mahoning and Shenango Valley Traction Company for the first nine months of 1919. The Cincinnati fares were headed for the skies, as Mr. Culkins explains in his letter of January 29, 1920, but the upward curve is being flattened down by the arbitrary modification of the service-at-cost plan so as to spread out the deficits over a period of years and avoid the danger, foreseen by both the city and the company officials, that the fare would get so high as seriously to curtail traffic in spite of the good will and spirit of cooperation supposed to characterize the riding public under a service-at-cost arrangement. It is again unfortunate that the traffic figures for the Bay State system under the service-at-cost act are not available, as they could properly be compared with the figures for the Connecticut Company lines and the lines of the Public Service Railway Company of New Jersey, which are operated under somewhat similar conditions with respect to the character and distribution of the population served. The Connecticut and New Jersey experiences with traffic losses have figured largely in the estimates of what fare increases will do to the riding habit. But there is no evidence that conditions have been any better on the Bay State lines under the service-at-cost plan than they have been in Connecticut and New Jersey, where all the fare increases have been brought about without the help of service-at-cost plans. The evidence seems to be clear that the service-at-cost plan as worked out in Cleveland, with its particular background of battle and final compromise, has enlisted public support to a remarkable degree. It is not shown, however, that a service-at-cost plan worked out in any other way brings the same benefits either to the company or to the public.

Mr. Nash does not regard the public guaranty contained in the Boston act as characteristic of the service-at-cost plan. This point is brought out at pages 670 and 671 of the Proceedings, where the following testimony is found:

"Mr. Warren: What would you say were the salient features of a service-at-cost franchise, the essential features, distinguishing it from an ordinary franchise?"

"Mr. Nash: The essential difference is in the assurance to the investor, that, as far as any rate of fare can be put into effect which the patrons, the car riders, can afford to and are willing to pay, the investor will get a normal return upon his investment. In other words, the kind of a return that he would get if he put his money in an alternative commercial or industrial proposition.

"That is not a guaranty. I think that distinction ought to be very clearly brought out, that it is not a guaranty in the ordinary franchise. In our Massachusetts cases, the Boston Elevated act at least, that is a guaranty that the state treasury will make up the deficit, and the return to the investor is absolutely guaranteed; but it is expected that the deficit which the state makes up at one time will be paid at another under more favorable conditions by the car riders; so that in the end the state will not lose anything, but there is no definite provision for that in the act.

"Mr. Warren: So that one essential feature and difference is the assurance to the investors, that so long as the business is capable of producing it, they will get a fixed normal return on their investment?"

"Mr. Nash: That is the real vital advantage of it.

"Mr. Warren: Is there any assurance to the car rider that he does not always enjoy under present franchises?

"Mr. Nash: There is an assurance to the car rider that he can have any kind of service that he is willing to pay for.

* * * * *

"Mr. Warren: So that really those two features are very important, the determination of the value of the property used, and then permission to the company automatically to have its rates go up and down, to furnish a return upon that value?

"Mr. Nash: Those are the fundamentally necessary features.

"Mr. Warren: Those are the two reciprocal benefits?

"Mr. Nash: Yes.

"Mr. Warren: The investor says, 'I won't require you to pay on money that is never invested,' and the car rider says, 'You may get a proper return on whatever is invested.'

"Mr. Nash: Exactly."

On the subject of depreciation as a factor in the cost of service, Mr. Nash differs quite radically from Mr. Mortimer, who, it will be remembered, insists that a full reserve should be accumulated equivalent to the difference between the cost new of the property and its present value as measured by its per cent condition of cost new. Mr. Nash takes the position that the depreciation reserve should be sufficient to provide for actual replacements of worn-out property as they become necessary from time to time, but that obsolescence and supersessions not definitely foreseen should be taken care of by the generation of car riders who benefit from them. In view of the effect upon fares of the depreciation policies established by the State of Massachusetts under the Boston and Bay State service-at-cost acts, this point is one of great importance. At pages 667 and 668, Mr. Nash says:

"The effect of the method of accruing for replacements, depreciation, so-called, which I have referred to as being produced by the Interstate Commerce Commission and some of the state commissions in their accounting requirements, leads to the accumulation of a large reserve—in some cases, a very large reserve—which is never used. This reserve—the accumulation of it—comes from the car rider in the case of the railway company. It is money taken from the car riders, and usually this reserve is invested in the property. That is not in these days a very profitable investment for the car rider, and if he had his option, he would prefer to invest his money somewhere else. Of course, normally and theoretically, this investment reserve earns a return. It is unnecessary to go out and borrow as much outside capital; so that the fixed charges against our operation are less than otherwise would be the case; but so long as this reserve is in excess of any possible actual requirements—and I am familiar with calculations which show that even on a sinking fund basis, this reserve might amount to as much as 40% of the investment in the property—to the extent that that is excessive, the car riders pay a higher rate of fare than otherwise would be necessary, and I think in any service-at-cost program any excess accumulation of that kind should be avoided.

"I am heartily in favor of full provision for any actual requirements, but I doubt very much whether provision should be made for so-called obsolescence and supersession; in other words, whether the car riders of today, using a certain type of equipment, should furnish the means of retiring that equipment, so that subsequent car riders may have the advantages of more efficient, safer and otherwise more attractive service. For example, we are now introducing in very large numbers about the country—quite large numbers—the one-man car. It is a more efficient piece of equipment than the older style of car. The cost of operation is less. The older and heavier equipment is, in effect, abandoned. It probably will be for some time used for extra heavy service, but in the end it is a supersession, and there is a reduction in future costs. There is a more frequent service for the car rider, and I think the user of the one-man car is the man who ought to, in part, at least, pay for the amortization of the remaining life of the equipment which is superseded.

"In short, in the service-at-cost franchise, the car rider should pay as a part of the cost enough to accumulate reserves for existing renewals, but not for theoretical depreciation or for unforeseen obsolescence of equipment."

After a good deal of further discussion as to the proper method of providing for depreciation on account of obsolescence, Mr. Nash, in answer to a ques-

tion by Commissioner Beall, makes the following statement at page 677 of the Proceedings:

"The thought I have in mind is that every railway should set up a reserve. I do not know that I would attempt to define what that would be, because it involves so many different questions, as to probable useful life and the extent of the effect of changes in the art, and all that; but if I were guessing at a suitable reserve, which would take care of any actual retirements and replacements on a normal charge, I would say something like 10% of the investment. I think that would be enough to wholly take care of any normal amount of retirements."

I have already discussed to some extent this matter of depreciation in the introductory pages of this chapter. Mr. Nash evidently does not believe in the deduction of accrued depreciation from the original investment in arriving at a rate base. I do, and for that reason I believe that accruing permanent depreciation is a part of the cost of service. So far as depreciation is due to obsolescence and inadequacy, it cannot be definitely measured in advance, and of course to provide for it fully and with certainty in advance would put an unreasonable burden upon the present car riders. It is a matter for the use of judgment, but the rule to be applied is that the physical value of the plant plus the uninvested depreciation reserve should be kept at all times as nearly as possible on a par with the recognized capital value. When an agreement is reached as a basis for a service-at-cost plan, the accepted value ought to be the depreciated value, unless it is proposed to tax the future car riders to make up deficiencies that may have occurred in the past under a different arrangement. If those deficiencies are to be made up, they should be made up, and not carried permanently in an inflated capital account.

Mr. Nash is in favor of an indeterminate franchise, but believes that certain features of the franchise should be subject to review from time to time to insure proper flexibility. It will be remembered that in his statement of the fundamental and essential characteristics of service at cost Mr. Nash includes an assurance to the investor of the right to earn a normal return upon his investment, a return similar to what he would get if he put his money into an alternative commercial or industrial proposition. This is by no means as clear as it purports to be. The crucial question is: Shall the investor get a fixed rate of return, or a flexible rate of return adjusted from time to time to the normal rate of return currently offered on other investments? Mr. Nash assents to Mr. Warren's proposition that "the determination of value and the assurance of a return"—these essential features of a service-at-cost franchise—ought not to need review. At page 672 of the Proceedings, he says:

"Those should be fundamentally unchanged. They should be fixed."

But he goes on directly to say:

"Now, take the question of the rate of return, for instance. I do not think we can foresee indefinitely what rate of return the investor is able to earn in any other business, and what he is entitled to under a service-at-cost franchise; so that there might well be a provision for arbitration or readjustment of things of that kind that are subject to change with changing general conditions.

"Commissioner Meeker: Would you make these changing features subject to review at periodical intervals, say, every ten years, or whenever the emergency arises?"

"Mr. Nash: Preferably when a real emergency arises, if it is possible to define what one means by a 'real emergency.' That is always difficult."

Here Mr. Nash gets into deep water. He has to agree that if the rate of return is to be left open to adjustment by arbitration from time to time, it will have to be subject to decrease as well as to increase. It appears, however, that the only kind of fluctuation attractive to the investor would be fluctuation up. The matter is discussed at pages 672 and 673 of the Proceedings, as follows:

"Commissioner Gadsden: Mr. Nash, don't you think that that will, in some measure, affect the securities of the investor; if an investor buys a security under any consideration of that kind, with the provision that the rate on these securities is subject to revision, don't you think that that is going to make money more expensive to get, under this plan?"

"Mr. Nash: There would be a tendency both ways.

"Commissioner Beall: You think normally it would go up, and not down?"

"Mr. Nash: If the investor foresaw that prices were going to continually rise, and that the rate of return that he could command in the future ought to be revised, he would look for a revision to give him an opportunity to get more than he started with.

"Commissioner Beall: Well, are not the chances all the other way?"

"Mr. Nash: It is pretty hard to tell how the average investor would look at the future, whether he thinks prices are going up or going down.

"Commissioner Beall: A banker would not undertake to raise money under those conditions. He could not do it, absolutely.

"Commissioner Gadsden: That is a gamble; that is not an investment."

Perhaps Mr. Thomas L. Sidlo, of Cleveland, states the case for a variable rate of return as well as any of the witnesses. In describing service at cost, he says at page 1588 of the Proceedings:

"This cost should include the labor charge, the operating charge, the power charge, the maintenance charge, etc., all according to the market. In addition it should include the 'money charges,' that is, the return to the company's security holders on their investment. This return should not be 'fair' or 'fixed,' but it should be *certain* and in accord with the prevailing cost of money for this kind of capital requirement. In other words, it should be subject to ascension or declension, according to the necessities of the money situation, perhaps, however, with a fixed minimum which should always be assured. The reason for this is obvious. The cost of money is just as important and inevitable an item entering into the cost of service as labor and material and is as susceptible to the control of economic influences. This fact should be recognized and accredited. This applies especially where the type of security is to be common shares, either exclusively or predominantly, and where the effort will be made to keep these shares actively at par or in the region of par or in a price range that will be sufficiently attractive to invite fresh capital. The rate of return should not be susceptible to frequent or violent changes. This might give a gambling quality to the stock, but the rate should not be so immutably fixed as to make it impossible to recognize and meet changing money market conditions."

Mr. Nash's theory of fluctuation in the rate of return is based in part upon his acquaintance with our old friend, the "Mexican dollar," as will appear from his statement at page 675 of the Proceedings:

"If the costs of living generally have gone up not less than 50%, the investor, who, theoretically, may live on his income, ought to have his income increased 50%. The investor makes his money work for his living, and he is just as much entitled to a higher wage on his money as the workingman is entitled to a higher wage for his physical labor."

The discussion is confused by a mixture of ideas and problems. If service at cost is designed primarily as a means for rehabilitating credit, its function is not to restore to old investors what they have lost, perhaps temporarily, through the depreciation of the dollar, but to offer the new investment security and a certainty of return as compared with other investments, and give it a rate of return which, under the conditions, is enough to attract it into the electric railway field in sufficient amount to enable the electric railways to "carry on." What the old investor gets under a service-at-cost contract is a matter of equity and bargaining; but the rate of return for the new investment, except to the

extent that the old investors contract to supply it, necessarily depends upon market conditions from time to time. Here again the necessary flexibility can be obtained, if the rate of return on new capital is to be just what it costs to get it. The Cleveland Railway Company claimed, and the Cleveland Board of Arbitration found, that the original provision of the Tayler grant with respect to rate of return was not flexible enough to enable the company to finance extensions and improvements needed in the immediate future, but the modification recommended in that case does not increase the flexibility of the rate of return, but merely adopts the clumsy and expensive expedient of raising by 16 $\frac{2}{3}$ per cent the contractual rate on \$28,000,000 of capital stock already outstanding in order to offer new investors an attractive rate on money hereafter to be put into the enterprise. We should never lose sight of the fact that the new investor in times like these puts in depreciated dollars, and does not ask a rate of return based upon the theory that he is investing dollars that differ in any way from the dollars in which his return is to be paid so long as present conditions prevail.

On the subject of incentive to economical administration, Mr. Nash approves in theory the London sliding scale as applied to street railways in the Cincinnati and Dallas service-at-cost franchises, with the important qualification that in neither of these cases has it "worked" and that it is always hard to get it started on the right basis, and even if you do succeed in that a change in conditions may make a change in the basis necessary. He also favors the Montreal plan for supplying incentive, with the qualification that the commissioners who administer the plan need to be paragons of political virtue and business foresight. After describing the Montreal "operating profit" plan, whereby the management receives at the end of each year a bonus of $\frac{1}{8}$ of one per cent on capital value if it has kept within the operating allowance, he says at page 669 of the Proceedings:

"That is a small amount, so far as percentages go, but it should serve as an incentive to keep the expenses within all reasonable limits; but the just working of an allowance of that kind requires absolute unvarying fairness on the part of the commission that fixes the allowance in advance, with a very clear forecast of what is going to happen. Otherwise, it is difficult to definitely and successfully apply it. If the commissioner fixes his allowance one year; if he fixes it just as close as he can, and the company comes a little bit under, the tendency in the succeeding year, if the commissioner does not want the company to earn its operating allowance, is to crowd the allowance down, so that in a series of years, there is an attempt to crowd the allowance down to the lowest possible limit, and the incentive is lost. If, on the other hand, the allowance is made liberal so that the company can easily live within it, somebody gets up and says the commission and the company are in collusion, and there is an operating profit there that really does not belong to the company and was not really earned.

"That is the difficulty in applying that sort of an incentive, but the principle is theoretically good."

In other words: "Cheer up, brothers; we know what the problem is, but thus far we have been unable to solve it." And so, in this state of mind, Mr. Nash would recommend to Pittsburgh "the same general plan they have in Cleveland or Cincinnati," with "just incidental modifications," as he says at page 691 of the Proceedings. Then he continues:

"I think * * * of the point of flexibility that I mentioned, not having the thing so tightly sewed up that it cannot be adapted to varying conditions from time to time, and the point of incentive to both the investors and the management to get the most that is possible out of the property; the investor to more readily furnish the money, the management to keep itself up to the highest pitch and to keep in the service of the railway the class of

men that is necessary to secure the best results. If the extent of supervision, for instance, is so great that the officials of the company are merely clerks to carry out the instructions and the plans and designs of the supervisory body, that is not attractive work for a real man. Just so far as is consistent with the interest of the public I think the management should be left free to initiate the improvements and take credit for improvements."

Mr. Nash thinks that neither a maximum nor a minimum rate of fare should be contained in a service-at-cost franchise. In this opinion, at least so far as the maximum is concerned, Mr. Nash is supported by the opinion of Mr. W. B. Head, Vice-President of the Dallas Railway Company. It appears that in Dallas not only the street railway but the gas and electric properties have been put on a service-at-cost basis. At page 631 of the Proceedings, Mr. Head says:

"The great defect, as it turned out, in the railway franchise, on account of the war situation, is the fact that it has a top limit, and, to that extent, is not a service at cost. You cannot go above a five-cent fare, and, therefore, it is not a service-at-cost franchise, to that extent."

The standard rate of return allowed in Dallas when the maximum fare is being charged is 7 per cent. Mr. Head states that the company has been earning 4 per cent. It is apparent that all is not well in Dallas. At page 632 of the Proceedings, Mr. Head says:

"We are not properly serving the city. We are not making any extensions. We have not the money, and we cannot get the money. We need new equipment, and we cannot get money with which to purchase the equipment."

Still, Mr. Head has hopes that the company may be able to pry the lid off with a lever which it retained at the time the franchise was negotiated, as will appear from his testimony at page 636 of the Proceedings:

"The Chairman: Do you expect to be able to get the lid off that maximum fare?"

"Mr. Head: I rather think we will, for this reason: One of the trading points of the city was that, on account of the fact that they put this lid on, we introduced certain clauses in the franchise by which they cannot force extensions when we are not making the allowed return, and we are hopeful of using that to be able to get this lid off, so that the property can grow. That was one of the offsets to the limit being placed."

On behalf of the public Mayor E. V. Babcock, of Pittsburgh, and Mr. Charles K. Robinson, special counsel for the city in public utility litigation, gave important testimony on service at cost, based upon their study of that plan as applicable to the solution of Pittsburgh's transportation problem. To them the problem of incentive is the stumbling block, as will appear from Mayor Babcock's statement and Mr. Robinson's comment on it. At pages 1900 and 1901 of the Proceedings, Mr. Babcock says:

"The use of the service-at-cost plan, which is now strenuously proposed in behalf of the street railway companies, has many elements to commend it to favorable consideration. It, however, possesses one element which may prove that it is not the final solution to the difficulties, namely, that it robs the operating company of the incentive to secure the best operating economies and keep down the cost of the service. Various expedients by way of adopting annual budgets and by giving the local municipal representatives a voice in the fixing of the budget have been suggested, and on the other hand, incentives have been suggested to reward good management by operating bonuses and by dividing excess profits, but all of these plans are quite unsatisfactory and give no assurance that they will accomplish the desired results. Yet it may be that no better plan can be evolved to carry the business across from the unregulated age to the present regulated age than that of service at cost with arrangements providing for possible municipal ownership under reasonable conditions of purchase. If a service-at-cost plan could be developed whereby good judgment could be fairly rewarded, then no serious objection could be raised to the plan."

At page 1907 of the Proceedings Mr. Robinson, answering for Mayor Babcock and himself, explains the difficulties they found with respect to this matter of incentive. The record shows the following:

"The Chairman: How are you going to provide for that incentive?

* * * * *

"Mr. Robinson: * * * * Our idea is this: That up to the present time, so far as we have any knowledge, there has been no plan evolved which occurs to us to be satisfactory in the way of meeting that particular and rather serious objection.

"We are reasonably familiar with the plan that has been adopted in Montreal where they have an operating bonus, I believe. That, however, is dependent entirely, if it is analyzed, to a point where it becomes a question of individual judgment as to whether or not the company has met a definite budget or not, and leaves it practically in the control of an individual commissioner or commissioners to decide that question and that lays itself open to complications which seem to us not to meet the situation.

"The Cincinnati arrangement, while in a sense fairly meeting the problem in the sense that it divides certain excess profits, nevertheless in a situation where there is a very rapid change in the general economic and financial conditions, entirely fails to meet the situation, because, being predicated upon certain assumptions that a certain rate of fare, a certain amount of return, certain costs, and so forth, are the bases of judgment, if those bases are violently changed by war conditions, or by any economic or other conditions, or by mechanical art developments which might be incident to the one-man car, or otherwise, then the whole arrangement is immediately distorted, and the thing you were trying to do, which was to reward good management, may, after all, prove a punishment for an economic condition over which they have no control, or may prove a gift because of factors over which they have no control."

Again, at page 1912 of the Proceedings, Mr. Robinson says:

"The trouble with the cost-of-service plan, it seems to me, is it offers no check against many forces which naturally tend to very much increase the cost of service, because the company, having no direct interest in those costs, necessarily would not try to keep them down. They might, for instance, increase their payrolls very materially, because it would mean nothing to the operating management, and of course the pressure to increase those is constant. It is the inherent danger which attaches to a system which more or less guarantees the returns without providing any incentive to keep the costs down."

Further on, at pages 1921 and 1922 of the Proceedings, Mr. Robinson mentions a second objection to the Cincinnati franchise, namely, this:

"It locks the whole arrangement into a flat fare arrangement absolutely, and that, I think is unwise. I think provision should be made for such adjustment of the fare as experience and practice may develop to be the best for the community and the best for the company."

Moreover, in his opinion, the sliding scale coupled with the barometer fund as worked out in the Cincinnati franchise would prove to be illusory even if the plan were operating under normal conditions. It will be remembered that when the fare is at a certain point a portion of the surplus goes to the company, but the balance goes to the reserve fund, and that tends to build up the fund to a point where the fare is automatically reduced, and the reduction of the fare presumably reduces or cuts off the surplus, of which the company is to get a larger share as a reward for operating at the lower fare. Commissioner Gadsden and Mr. Robinson, between them, gave this Cincinnati incentive provision a pretty hard rap, as will appear from the testimony at page 1922 of the Proceedings:

"Commissioner Gadsden: I imagine it is largely illusory anyhow?

"Mr. Robinson: I think it is, under the Cincinnati plan, largely illusory.

"Commissioner Gadsden: It does not vest until the fare goes down?

"Mr. Robinson: And the moment it gets there you have to change it

"Commissioner Gadsden: But it listens well?

"Mr. Robinson: That is it exactly. That is what I think about the Cincinnati plan. I think, if you analyze it, that it is very largely illusory and does not produce what you started out to do."

One of the most illuminating things that Mr. Robinson said relates to the question of the proper basis for the valuation in a service-at-cost franchise. His argument for the use of the actual investment is found at page 1914 of the Proceedings:

"I have personally, of course, always put the emphasis upon the actual investment in the properties and upon those bases of reproduction which are based upon the normal situations undisturbed by excessive war prices, subject only to the exception that where money actually spent during the war period has been put in at the increased costs due allowance, of course, should be made for the actual expenditures, keeping in mind all the time, of course, the investment or cost. Because, after all, when you use the words 'Service at cost,' there seems to be no logic in the situation unless you say that it means cost to the investor or cost to the capitalist as well as cost to the public. There is no more reason why cost should be applied as against the public than it should be applied in a sense against the investor, and that situation appeals to me personally for another reason at the present time. In the past, the companies have accepted franchises with many conditions which attach to the question of fares and attach to the condition of these obligations relating to paving and various municipal charges. They now appear before the public and make the contention, properly, that they are public servants and the performance of those conditions is no longer possible. They will continue to perform their public duties, and they say in the name of the public that they are serving that they should be relieved of those things, and it seems to me in the situation which has arisen that there is a moral and ethical responsibility on the part of the companies to ask only that they should be allowed to receive a return upon a fair estimate of cost."

Mr. Morris L. Cooke's final comment on service at cost as proposed before the commission is far from encouraging. At page 1698 of the Proceedings, he says:

"I think with the service-at-cost plan as I have heard it described and as it has been presented here, you are going to step from the frying pan into the fire. I do not believe that its promoters realize the temper of the public or the trouble it is going to get them in.

"The Chairman: What is the difficulty, if any, that may arise?"

"Mr. Cooke: I think primarily the difficulty is that it is based on the theory that such a matter as this can be arranged by a fixing of a new standard such as the rate of return and the fare and a few things of that kind, and the big questions involved, questions of efficiency of management and cultivation of the public and the solution of the labor problem, escape them."

The service-at-cost program lacks definiteness, because no two service-at-cost contracts are alike even in the essential details. It bristles with difficulties, because it requires initially the determination of the fundamental question of value, with respect to which the interests of the parties are most divergent and the theories of engineers, accountants, economists, lawyers, commissions and courts most conflicting and chaotic; because it drives a dagger into the very heart of private initiative while still depending on private management to function; because it takes the electric railways out of the field of regulation by the police power and cancels their obligation not to charge more than the service they render is reasonably worth to the public; because it recognizes that local transportation is a public function and proclaims the necessity for intimate public control, while cheerfully admitting the incapacity of the public to perform the function directly. Even these general statements require qualification, for on the two principal electric railways of Massachusetts private management has been discarded, and in Cleveland and Dallas the maximum fare limit has been retained as a measure of the reasonable worth of the service. Service at cost has not proven its ability to secure public cooperation except in Cleveland, and

there a referendum has been invoked against the recommendations of the Board of Arbitration in the seven-per-cent-return proceedings. In the forms presented to them the people of Chicago, Denver and Minneapolis have voted against service at cost, and indirectly it has been rejected by the voters of Detroit.⁸ Apparently, the public in many communities looks upon it as a "cost-plus" device—only this and nothing more. At best, it is not a remedy that can be applied quickly, unless also foolishly or dangerously. It has not proven its ability to restore credit in the present emergency without a public guaranty.

CHAPTER XLII

THE USE OF PUBLIC CREDIT

During the war period capital advances were made by the Federal Government, through the United States Shipping Board Emergency Fleet Corporation and the War Finance Corporation, to a considerable number of electric railway companies which were unable to furnish on their own credit the capital required to enable them to render the public service deemed by the Government to be essential to the continuity and success of its war activities. In the case of the Shipping Board, advances were made for the construction of extensions or the provision of additional equipment and power facilities, to enable the electric railways to provide transportation for the war workers. In the case of the War Finance Corporation, loans were made to certain companies in pursuance of the Corporation's power to make advances to going concerns whose operations were deemed necessary or contributory to the prosecution of the war. For example, the Government assisted in the refinancing of the Brooklyn Rapid Transit Company's notes on the theory that the company's operations were so essential to the successful prosecution of the war that a failure or a crippling of the service would seriously prejudice the Government's war-making functions and activities. The Government's policy, however, was to exact ample guaranties from the companies which received assistance that its advances would ultimately be repaid. In some cases, at least, the Shipping Board retained title to the equipment and tracks purchased or constructed with the funds advanced by the Government.

It has not been suggested, however, by the witnesses before the Commission that the credit of the Federal Government can properly be used to uphold the electric railway industry in times of peace. It is recognized, therefore, that public credit, if made available for this purpose, outside of the District of Columbia, must be the credit of the states or municipalities in which the local transportation service is rendered. This statement needs to be qualified only to the extent that certain electric railways might be regarded as part of the national transportation system of the country. In case the policy of government aid to the steam railroads is continued or the policy of Federal operation resumed, with or without government ownership, it is quite possible that some of the electric railways, even of those that operate in the public highways, may ultimately be treated by the Government as a part of the general transportation system, either because they are interstate carriers or because they perform auxiliary service, not strictly urban or local in its nature. It seems, however, that for the purposes of this discussion any probable use of national credit in support of the electric railways may be treated as exceptional and incidental and not as furnishing a possible solution of the main problem with which we are concerned.

In the preceding chapter, under the discussion of service at cost, attention has been called to the fact that the new capital required for extensions and improvements of the Boston Elevated Railway system and the Eastern Massachusetts Street Railway system (formerly the Bay State lines) has been secured through state aid. The 10-year public guaranty enabled the public trustees for the Boston Elevated to dispose of a certain amount of bonds, and the purchase of the Cambridge subway by the state has supplied the Boston company with a large amount of additional capital; while in the case of the Bay State system the state guaranty of a new issue of serial bonds has enabled the trustees to dispose of them in sufficient amount to meet the company's capital requirements for the present. Here we have instances where public credit has been used to bolster up the electric railway situation, but only in connection with the trustee plan of public operation.

In Chapter XXIII of this report I outlined some of the general programs offered by the witnesses before the Commission, including public ownership, as means for restoring electric railway credit; and in Chapter XXIV I discussed briefly the pros and cons of public ownership from the point of view of economic theory as voiced by various witnesses. Public ownership got through the ordeal with some burns and bruises, but still in condition to be considered as a potential remedy for bankruptcy. That public ownership would solve the problem of credit is universally and almost too readily admitted by the witnesses. In view of the immense and almost insuperable difficulties that we meet in trying to work out a solution on some other basis, it is apparent that public ownership must be given serious consideration, not merely as an ultimate solution to be worked out in the future at our leisure, but in its bearing upon the immediate crisis in the electric railway field. If desirable—or even if necessary to the public welfare—can public ownership and operation be depended on for quick results? The American Electric Railway Association, in its brief filed after the close of the hearings, gives a negative reply, and for that reason dismisses the subject without extended comment.¹

Upon all sides, it is admitted almost unanimously that the electric railways are an essential industry and that local transportation in urban communities is a public function, for which the community through some of its governmental agencies must assume final responsibility. Heretofore, this function has been performed in the main by private agencies under varying degrees of public control. These agencies have now reported back their inability to continue to perform the function under the conditions heretofore prescribed. New conditions are demanded. Public policy cannot stand still in the matter. It must either go backward, by withdrawing the hand of regulation and permitting the electric railways to fight out the battle of life or death as a non-essential, competitive, private industry, or else go forward to the assumption of a larger and larger degree of public responsibility in connection with the performance of this public function. We cannot blink the fact that regulation of competitors, relief from taxation, public subsidies, and public control of wages and hours and conditions of work, and service at cost, all involve public encroachments upon private man-

agement, on behalf of adequate service at reasonable rates. We are being driven farther and farther into the realm of public control, and the question arises: Can we stop far enough short of public ownership or of public ownership and operation to make stopping worth while, even from the point of view of those who do not wish to reach that goal?

We have seen that Colonel Kutz, as Chairman of the District of Columbia Commission, favors municipal ownership of track and roadbed as a means of getting around the paving problem. In New York we find public ownership of the subways as a means of solving the credit problem. Yet the lessees of the municipal subways are in distress along with the rest of the electric railways. Boston financed its own subways and now the State of Massachusetts has taken over the privately-constructed Cambridge subway as a means of releasing capital to the Boston Elevated Railway Company for use in extensions and betterments. The company's leasehold obligations to the City of Boston have been an important cause contributing to its financial distress and the high fares that have prevailed under public operation. Philadelphia is constructing a municipal rapid transit system, and has long been negotiating with the Philadelphia Rapid Transit Company for its operation. The policy of public ownership and private operation has had many advocates for many years. This is the plan suggested for Pittsburgh by Mayor Babcock and Mr. Robinson, as will appear from the following statement at page 1901 of the Proceedings:

"Theoretically it seems that the best possible arrangement to meet the situation would be to have municipal ownership with private operation. I have said 'theoretically,' because of numerous practical difficulties which present themselves in such a program. It may be plainly demonstrated, however, that such a plan, if definitely stabilized and assured, has very great advantages over any other arrangement and eliminates all of the controversial atmosphere which now exists between private capital and the public. It would permit of financing on much lower interest rates than financing by private interests. It would give the municipality complete control of its own development and place in its hands the key to its own destiny. Coupled with private operation it would produce all of the advantages of private, as contrasted with municipal or public operation with its associated political entanglements, and if combined with a plan whereby, at fixed periods, say every ten years, the operation of the system was let to the best bidder, it would insure good service at reasonable cost."

It will be remembered that the Massachusetts Public Service Commission in its Sixth Annual Report, issued early in 1919, could see no remedy for the credit problem short of public ownership. Chairman Frederick J. McLeod, of the Massachusetts commission, and Interstate Commerce Commissioner Eastman, formerly a member of that commission, both point to public ownership as the way out, in their testimony before the Commission.

With respect to the reaction of Massachusetts public opinion to the service-at-cost plan as applied to the Boston Elevated and the Bay State lines, Mr. Homer Loring said that the last legislature undoubtedly would have passed acts limiting the fares to five cents and providing for the payment of any resulting deficiencies out of taxes, if Governor Coolidge had not "stopped the fire" by appointing a street railway commission to investigate the matter. The commission referred to submitted its report a short time after the Federal Electric Railways Commission's public hearings were closed, and recommended with respect to the Boston Elevated that no action be taken at the present time looking to public ownership.

At pages 39 to 41 of the report, filed November 15, 1919, the special commission says:

"It is admitted that under public ownership adequate capital could be provided at a saving of over \$900,000 per year, as compared with the total of interest on bonds and loans and dividends on stock now paid by the company, the reason, of course, being that the Commonwealth can always secure capital at lower rates than a private corporation. In the event of public ownership the communities affected would lose taxes to the amount of at least \$750,000.

"It will be noticed that the option provided in the bill continues not only for ten years but as long as the Commonwealth may elect to manage the property under the terms of the act of 1918. All that this Commission might properly do would be to advise that the option be availed of now, or negotiations be opened to secure a better price, or that the property be taken by the exercise of the power of eminent domain. We make no recommendation because we are content to leave the matter as it is—to be acted upon if and when the Legislature feels moved to act.

"We reach this conclusion for various reasons. In the first place we are disposed to think that it will be wise to give the present experiment in the management of the Elevated longer trial. It has been in operation a little over a year, under most unsettled general business conditions. Already the revenues derived from the 10-cent fare are deemed by the trustees adequate to meet the obligations of the road. Further experience may make it clear that a readjustment of fares, through the creation of a zone system, will make possible a materially lower basic fare. The effect of removing some of the burdens now imposed through taxation and otherwise, if our recommendations be adopted, is yet to be determined, while a reduction of the cost of labor and materials if and when it occurs would, as a matter of course, be followed by a reduction in fares. We now have public control which could not be made more effective by public ownership. On the contrary, the board of directors of the Elevated must be in at least a mildly critical attitude towards the management, and because of the public and private interests involved, sometimes conflicting, all of the operating conditions of the road are likely to challenge rigid public scrutiny. Is it equally certain that under public ownership the management would be held to as high a standard of efficiency? All these considerations, and some to follow, suggest that the option to buy should not be exercised now or at any time hereafter without most deliberate consideration.

"We believe that this is an inopportune time to increase the bonded indebtedness of the State, direct or contingent, nor can anyone assert with knowledge that street cars propelled by electricity will be our most efficient means of transportation ten or twenty years hence. Macaulay foretold a time when some traveler from New Zealand might, in the midst of a vast solitude, take his stand on a broken arch of London Bridge to sketch the ruins of St. Paul's. So our children or our children's children may live to gaze curiously upon the subways, then converted into catacombs where may peacefully slumber the illustrious dead, and where the bones of the projectors and security holders of the Elevated Road might well be laid. The elevated structure converted into a promenade would afford a convenient sanctuary for those who might desire to escape from the motor traffic of the congested streets below, where one must needs be quick if one would not be dead.

"Private capital is already engaged in this enterprise. Why be in haste to release it? Why be impatient to remit all of the taxes we are now collecting? Stockholders and bondholders would perhaps be willing to exchange their securities for cash or for bonds of or guaranteed by the Commonwealth. While the condition of the security holders of the Boston Elevated prior to the act of 1918 aroused and in many cases deserved sympathy, it was not their condition but the absolute necessity for insuring transportation facilities to the metropolitan district that justified some measure of relief."

It can hardly be said that the recommendation of this latest Massachusetts street railway commission carries with it much solace to the hard-pressed electric railways of the country. The report, in effect, says: "The private investors are already in this enterprise. It is a shaky one. The state has already done too much for them. Let them sweat." Immediate public ownership is not recommended, but the commission's failure to recommend it is not, apparently, the result of a desire to come to the rescue of the companies.

Four members of this Massachusetts special commission, including State Senator John J. Walsh, who gave testimony before the Federal Electric Railways Commission, filed a minority statement recommending the immediate purchase, by the state, of the Boston Elevated Railway property, and supported their posi-

tion vigorously, as will be seen by the following quotation from pages 57 to 59 of the report:

"The street railway situation in Massachusetts calls for clear, positive and radical action. No longer are we justified in experimenting with weak palliatives administered here and there. Investigation and discussion have been exhausted. It is time to *do* something. Some railways hereabouts may doubtless continue for some time under private ownership and operation, if relieved of certain unnecessary burdens. Other privately owned street railways in certain areas may possibly be operated through public officers and supported through public subsidy. To provide such an opportunity for such action may be wise. Existing facts, however, justify the conclusion that if the public regards reasonable service at low rates of fare as a public necessity, the public must sooner or later take over the service. Indeed, a majority of the responsible witnesses who appeared before the commission to a greater or less degree regarded public ownership as inevitable.

"Adequate street railway service is essential to the social and economic life of our communities. It must be maintained, improved and extended. For these purposes large amounts of capital are required. It is evident that privately owned street railways have exhausted their borrowing powers, while at the same time the public is disgruntled at lending its credit to a publicly controlled but privately owned railway for the purpose of guaranteeing, either primarily or incidentally, a high rate of dividends on stock values largely in excess of market quotations, besides suffering an intolerably high and restrictive fare collected from the car riders alone. The public can own the Boston Elevated Railway at a cost lower than it is now obliged to pay in the form of guaranteed rental to stockholders. Our present plan affecting the Boston Elevated Railway, while perhaps defensible as an emergency measure in view of the condition of the Boston Elevated Railway in 1918, has worked out in an unexpected manner. It has neither the full character of a privately conducted business enterprise nor of a publicly owned and managed public utility. The fact that the legislative contract of 1918 affecting the Boston Elevated Railway was deemed by honorable legislators of ordinarily sound judgment as necessary to save transportation in the metropolitan area from cessation is a strong indication of the immense public necessity of transportation facilities. These facts, taken together, point unerringly to just one thing, namely, full public ownership, however we may oppose the idea in theory. The man who after long experience, serious investigation and thoughtful consideration 'sees no other way out' than public ownership certainly is not justified in remaining in a cave of despair. The arguments against public ownership and operation of any undertaking are easy to state and easy to accept. They seem overwhelmingly convincing when brought against any new and specific application of public control. They are precisely the same as when the public first conceived of taking over from privately owned and operated schools the education of children. They are precisely similar to the arguments used when public convenience began to seek public ownership of privately owned turnpikes and bridges. They are not different from those used when the public went into the business of delivering and selling water for the use of communities instead of leaving the business to private operation. When from experience the public becomes convinced that private ownership of any service essentially public in character has failed to function satisfactorily, the public invariably has adopted and always will adopt the extreme method of satisfying its wants and needs through public operation and ownership of such service. All arguments, however plausible, however sound, however convincing to the mind, that deal with theories and not conditions, have been and will continue to be disregarded when the public is convinced that private ownership and control of a necessary public utility is a failure. Such is the temper of the public mind at the present time, at any rate, as to the Boston Elevated Railway.

"Public confidence in the present arrangement is shaken beyond restoration. Nothing can restore the good-will necessary to the efficient conduct of a transportation system like the Boston Elevated Railway except the elimination of the idea on the part of the car riders that any group of people is getting an undue advantage from the operation of a public utility. There can be no question that to the average man in the metropolitan district it is an intolerable thing that the Boston Elevated Railway stockholders should be guaranteed a rate of dividend and a security of principal which appertain only to a well-conducted, successful enterprise. No theoretical arguments against public ownership will suffice to change the public mind. Public ownership and public control should be made possible for every community which, after patient experience and deliberate consideration, desires to elect such alternative."

Ex-Governor Foss, who testified before the Commission in midsummer, was emphatic in his recommendation of immediate public ownership and confident in his prediction of what Massachusetts was going to do about it. At pages 801 and 802 of the Proceedings, he testifies as follows:

"The Chairman: During the working out of this scheme of public ownership, what is to be done with these utilities, assuming that they are in a desperate condition?"

"Mr. Foss: I say, go to it immediately.

"The Chairman: Well, what?

"Mr. Foss: Well, go to it right off. We are going to get it in Massachusetts, we are going to take it up there. We are not going to wait for the nation to act.

"The Chairman: Your solution, then, is government ownership?

"Mr. Foss: Yes.

"The Chairman: That is the only thing you have to offer?

"Mr. Foss: That is the only thing I have to offer; either government ownership and government operation or government ownership and private operation, but government ownership first.

"The Chairman: Then do you believe that the one function of this Commission which has been appointed by the President is to make a recommendation to the country in favor of government ownership of these utilities?

"Mr. Foss: I think that would be the greatest report you could make. It would mean more to the people of this country than any report that has been made in my memory, because this is the greatest question in the country."

The 1919 election has passed in Massachusetts and Mr. Foss is still an ex-governor, and the well-hated Boston service-at-cost plan is finishing the second year of its ten-year initial period. The Massachusetts men have not yet crossed the Rubicon. They are still enjoying their resentment at the company's success in getting a ten-year guaranty, and apparently are unwilling to let the investors "pull out" entirely. Massachusetts could have undertaken public ownership. Many of the cities of the country are not in a position legally or financially to apply this remedy quickly. The situation in New York City was described, from the point of view of the Interborough Rapid Transit and New York Railways companies, by Mr. James L. Quackenbush, their general counsel. He takes issue with Governor Foss at pages 824 and 825 of the Proceedings, as follows:

"The discussion of Governor Foss this morning about public ownership, that we are going to do it right off, so far as the State of New York is concerned, if I may be pardoned the use of a remark concerning the distinguished gentleman from Massachusetts, is nothing but stuff and nonsense.

"Under the Constitution of the State of New York, the City of New York has absolutely no power to lend its credit to any corporation, or to guarantee anything, or to become the owner of stock in any corporation; but before the measure suggested by the ex-Governor of Massachusetts can be carried out in the State of New York, an amendment to the Constitution must be obtained. This may seem like a law lecture, and probably it is familiar to you, but, very briefly stated, under our Constitution, you can amend it only by a constitutional convention, or by an amendment passing the legislature; then the same amendment, as passed, being submitted to the next succeeding legislature, made up of the Senate which has, since the first enactment, been newly selected from the people; and then, after those two successive legislatures have passed the amendment, it is submitted to the people at the next annual election; and on the timetable as of today of the Governor's program—mind you, I am not talking about whether public ownership is the thing or not; I am talking about whether you can do it now—we could not get anything through in New York State for our relief until the legislature next year passed it, in 1920, and then, there being an election in 1920 for senators, the Senate of 1921 would be a new one, and they could pass it in the fall of 1921. If the people approved it, it would be in shape for the legislature of 1922 to pass the requisite legislation through by constitutional amendment. So that on the timetable—

"Commissioner Meeker: Has not the legislature authority, however, to amend the charter of New York City, so that New York may do it?

"Mr. Quackenbush: No, sir; it is absolutely prohibited by the Constitution—no city. It is in the Constitution. The city itself, nor any city or other political subdivision in the state, can do it. That is because, in the very early days, when I lived up in the central part of the state, they came along and bonded my town to build the steam railroad out there. You all know the history of the early days of that. That was put in the Constitution, so that no misguided gentlemen of the notions of the distinguished former Governor of Massachusetts would use public moneys for any such things, for you cannot put his ideas into effect until you have had the approval of two successive legislatures and have gotten the majority vote of the voting population of the State of New York.

"The Chairman: Assuming that public sentiment in New York was ready for public ownership, what are the steps possible to be taken by which the properties in New York could be taken over, after the Constitution had been amended and had been ratified?

"Mr. Quackenbush: If the legislature, convening on the first Wednesday of January, 1922, passed a bill and it was signed by the Governor, the law would be there. Then would come the question of condemnation or purchase. By no possible stretch of my imagination, can I conceive of the carrying out of anything that would protect my clients in less than three years from today. I think you can see that that would be so. That is moving pretty fast, too. So that that is not available."

It is fair to say that the City of New York, after having adopted the policy of subway construction with public money, found itself in a position in 1913 where it felt compelled to appeal to private credit for help in financing a much-needed program of rapid transit expansion. In this case city credit was so nearly exhausted under constitutional restrictions and the enormous existing debt that it could not unaided take care of the pressing transportation needs of the public. Undoubtedly, the credit of the State of New York would have been sufficient for this purpose, and the city's credit could have been made sufficient, conditioned upon wise use, by the removal of the constitutional limitations. But the difficulties explained by Mr. Quackenbush exist, and for the moment the amount of public credit that can be made available for the electric railways is not by any means unlimited in all communities.

No one would question the ultimate ability of the communities through their governmental organization to finance electric railway construction, but the trouble is that public credit cannot be easily mobilized for the purpose under existing constitutional and statutory restrictions, and in many cases these restrictions cannot easily be removed. In many cases, the Massachusetts plan as embodied in the Boston and Bay State contracts with public operation, could be put into effect by legislation without immediately burdening public credit with the entire load of existing street railway investments. Undoubtedly, in most cases, either the state or the municipality could finance the new extensions and additional facilities immediately required except where great programs of general rehabilitation or deferred expansion are imperative. But, as we have seen, there are serious difficulties in some jurisdictions in the way of using public credit to help the electric railways out except under public operation or public ownership. Therefore, we must first consider the problem from the point of view of the ability of the public to assume the whole burden of the investment and release private credit entirely. In this connection, consideration must be given to the disadvantages and the advantages that arise, from the standpoint of public credit, as a result of the fact that electric railway systems overrun municipal boundaries. The disadvantages grow out of the inherent difficulty of establishing municipal ownership of a utility that operates as a unit in more than one municipality, and often in a great many of them. The trouble here is both political and legal. The advantages grow out of the possibility of creating transportation districts as a new type of municipality with unencumbered debt-incurring power.

The Proceedings do not show the extent of the existing limitations upon state and municipal indebtedness, nor the extent to which states and municipalities are prevented from loaning their credit to street railway companies, or from taking over electric railway properties subject to their outstanding obligations. Neither time nor funds have been available to undertake a special investigation along these lines, although it is a matter of great importance in connection with the

subject with which the Commission has to deal. If we assume that, in order to give public credit free play in sustaining the local transportation function, it will be necessary for the public to acquire the electric railway properties, our first task is to determine the extent of the existing investment. This is the old fundamental difficulty that lies across the path of every possible solution of the electric railway problem. As we have already noted, the spokesmen for the electric railway industry speak loosely of an investment of from five billion dollars to seven billion dollars, but when we try to ascertain just what this means in actual money invested in the public service, or even in the present value of property devoted to the public service, we find ourselves in a maze of doubts and difficulties.

Mr. Charles K. Robinson, who for a number of years, as special city solicitor, has been studying the local transportation problem of Pittsburgh, says that it is hard to tell the net capitalization of the 218 companies which together make up the Pittsburgh Railways system. He fixes the total amount of outstanding securities as approximately \$160,000,000, but a good deal of that represents duplication of stock interest control. "The actual amount which they claim is not duplicated in any way is about \$120,000,000," says he at page 5516 of the record. We have already seen that the joint board of engineers appointed to appraise the Pittsburgh lines found the actual investment in physical property determined by the historical-cost method to be \$59,069,382, of which \$11,271,458 represents superseded property and \$12,039,600 more represents accrued depreciation of existing property. Thus we see that in the Pittsburgh case the actual cost of the existing property less the depreciation that has accrued is only \$35,758,324, or less than one-third of the net capitalization.

I have also discussed Mr. Babson's estimate of the shrinkage in value of electric railway securities during the past few years, coupled with the Census Bureau's statistics of capital stock and funded and floating debt outstanding in 1917. It may well be that the ascertainment of the total investment in the existing physical property of the electric railways, less accrued depreciation, would bring the total down from the five to seven billions claimed by the companies to somewhere between two and three billions, but of course a settlement on that basis could not in the nature of things be accepted by the present managements and would require a radical and well-nigh universal reorganization of the entire credit structure of the companies. If such a program were to be put through, those responsible for it would have to abandon definitely the idea that public interest requires the restoration or preservation of the solvency of the existing companies, and whatever readjustments in the financial world might follow from the perpetuation of the present low security values would have to be accepted and made the best of. What seems more likely to happen, if we are to judge from the settlements that have been effected in the past and from the valuations that have been established by regulatory bodies, is that a compromise will be effected between the rock-bottom depreciated investment figure and the sky-high undepreciated war-price value claimed by the companies. As an illustration, the Pennsylvania Public Service Commission fixed the value of the Pittsburgh properties for purposes of reorganization at \$2,500,000, which is nearly twice

the minimum on the basis of depreciated investment value, although scarcely more than half the net capitalization. It seems hardly likely that even in these times of distress the electric railway properties of the country could be acquired by the public for less than three billion dollars. If, for purposes of discussion, we assume that figure, we must then ask this question: Are the states and the municipalities of the country in a position to take over this investment without straining their credit beyond the point where a substitution of public for private credit would be advantageous?

As I have already stated, no sufficient study has been made to determine the amount of municipal credit available under existing debt limits. It is significant, however, that the special bulletin on "Financial Statistics of Cities," issued by the Bureau of the Census in March, 1919, shows the aggregate gross debt of the 227 cities estimated to have a population of over 30,000 each to have been \$3,803,640,378. This includes both funded and floating debt. After the deduction of sinking fund assets, the aggregate net debt of these cities was \$2,661,451,218. It is noteworthy that the total net debt of these municipalities outstanding in 1918 was only about 82 per cent of the total funded and floating debt of the electric railways as reported for 1917. Undoubtedly, the cities having a population of less than 30,000, for which the debt figures are not available, would swell the total considerably, and on the other hand the indebtedness of inter-urban electric railways not within city boundaries would cut down considerably the total of electric railway obligations. It seems quite probable, however, that with these adjustments made, the net existing debt of the cities of the United States incurred for all municipal purposes, would not exceed the funded and floating indebtedness of the electric railways constructed to serve them. Therefore, at the very least, the acquisition of the electric railways generally by the municipalities would necessitate the immediate doubling of the net amount of municipal indebtedness. Of course, individual communities would show extremely wide variation from this average.

When we come to consider the possible acquisition of the electric railways by the states, the problem from the point of view of constitutional restrictions is probably less difficult, but from the point of view of the relative magnitude of the new as compared with the existing indebtedness, the problem is even more difficult. A census report giving statistics of state indebtedness was issued in 1914 and shows that in 1913 the gross funded and floating debt of the 48 commonwealths aggregated \$422,796,525. With sinking fund assets subtracted, the figure was reduced to \$345,942,305 of net indebtedness. It may be assumed, perhaps, that as a result of the large expenditures in recent years for good roads, the aggregate net indebtedness of the states at the present time is well over \$500,000,000. It is clear, however, that the acquisition of all the electric railways of the country by the states would mean an addition to the indebtedness of the states of at least five or six times the amount of their present net obligations.

It is true, of course, that an increase in public debt for the acquisition of revenue-producing property is not so serious a matter and does not cause so much financial or political shock as would be caused by a similar increase of indebtedness for non-productive property; yet at the present time, when the future of the

electric railways has been brought into more or less of doubt in the public mind and when there is such great uncertainty with respect to the ability of the electric railways to pay their way under any rates of fare which the public will tolerate, the acquisition of these properties and the assumption of their investment value as a public obligation, would be sure to strike terror to the heart of the average taxpayer, who already feels the burdens of public obligations to be well-nigh insupportable.

The net debt of the 227 cities included in the census bulletin is distributed among five groups, as follows:

10 cities with a population of over 500,000	\$1,584,183,419
12 cities with a population of 300,000 to 500,000	366,737,634
47 cities with a population of 100,000 to 300,000	357,112,087
62 cities with a population of 50,000 to 100,000	198,990,777
96 cities with a population of 30,000 to 50,000	154,427,301
<hr/> 227 cities with a population of over 30,000	<hr/> \$2,661,451,218

It is significant that the net debt of New York City was \$1,005,055,422, or nearly 38 per cent of the total for all the 227 cities taken together. Also, it should be said that the book cost of the local transportation lines of New York City, exclusive of municipal contributions to rapid transit construction, is in the neighborhood of \$1,000,000,000. Some years ago, Mr. Bion J. Arnold, of Chicago, the celebrated transportation engineer, reached the conclusion that street railway traffic in large urban centers increases about as the square of the population. It is perfectly obvious that this rate of increase cannot possibly go on indefinitely in a growing community, as at this rate we should have the entire population ultimately riding all of the time. At the same time, the riding habit tends to increase as cities grow, and the necessary investment in transportation facilities is likely to keep pace on the average with the traffic. Of course, for a good many years after a complete new electric railway has been constructed, the traffic would increase in a much greater proportion than the investment, but ultimately the need for new facilities and more expensive construction is likely to compel an increase in the investment almost, if not quite, as rapid as the traffic increase. The investment rate is likely to be even higher than the traffic rate when a community reaches the rapid transit stage. Indeed, the census figures show that from 1902 to 1917 the number of revenue passengers carried increased about 137 per cent and the outstanding securities increased about 139 per cent.

Clearly, the assumption by the public of the full burden of the electric railway investment and of the complete obligation to furnish the credit required for electric railway expansion would be an operation of some magnitude, and we need to proceed cautiously in accepting the easy conclusion that public credit is the all-sufficient golden apple ripe for picking by the electric railways. Yet, it may well be that the owner of the tree will have to make up his mind to harvest and eat the crop in order to keep himself in condition while another crop is growing.

Public credit may be made available for electric railway purposes in several ways. The obvious one is the issuance of bonds secured by the general credit

and the taxing power of the community. This is what people have in mind when they urge the great advantages of public as compared with private credit as a means of economical financing. The use of public credit in this way for general purposes is usually held within rather strict limitations by constitutional and statutory provisions, but in some cases it is partially or wholly freed from these limitations when used for the acquisition of public utilities. Another way in which public credit may be applied to the electric railway problem under public ownership is by the issuance of bonds secured solely by the electric railway property plus a contingent franchise which will authorize the bondholder to step in and take possession of and operate the property in case of default on the principal or interest of the public bonds issued against the property. Such an arrangement offers little additional security as compared with the bonds of a private company operating under a favorable franchise. It is true that under this plan the city may be freed from certain elements of the cost of service, particularly the payment of taxes, and it is to be expected that the city would not permit itself the luxury of default so long as it really desired to continue the policy of public ownership. There would always be the danger, however, that temporary official incompetence or public impecuniosity might lead to a default, perhaps for the very purpose of unloading the responsibility for the continuation and development of service upon the bondholders. Thus the value of the security offered to invested capital depends largely upon the terms of the contingent franchise. At best, if the municipality attempted to float bonds on such security for the full amount of the purchase price or the construction cost, we should have the property bonded up to 100 per cent of its cost, and there is little reason to suppose that under these circumstances the enterprise would benefit materially from the quasi-public character of the credit used. This plan seems to have originated with the famous Mueller certificate law of Illinois designed to open the way for municipal ownership in Chicago in 1906. That particular effort was abortive, as the Illinois Supreme Court held that the proposed certificates could not be issued outside of the general debt limit. However, the plan was incorporated a little later in the new "home rule" constitutions of Michigan and Ohio. This scheme may work out well enough where it is used as a partial source of credit coupled with dependence upon the general credit of the community for a part of the capital. This combination plan seems to be the one contemplated by the charter and ordinances of Detroit.

A third method of utilizing public credit for the purchase or construction of municipal utilities has been originated in the far Northwest. This plan as embodied in the laws of the State of Washington authorizes the issuance of municipal bonds secured by a first lien on the gross revenues of the enterprise, without a security franchise or the right of foreclosure in case of default. Under this plan the city makes a contract with the bond-buyer binding itself to appropriate from the gross revenues from time to time a certain amount of money calculated to be sufficient to meet interest and amortization requirements as they arise, and to maintain rates at a point where they will yield sufficient revenue to make these payments possible. It is the design of the law that the utility shall be kept self-sustaining; but in case it is not, then the bondholder gets his due

anyway, as he comes in ahead of operating expenses, and the taxpayer "holds the bag."

The constitution of the State of Washington provides that no municipality shall become indebted for any purpose to an amount in excess of $1\frac{1}{2}$ per cent of the taxable property in such municipality without the assent of three-fifths of the voters, and that with such assent the total debt shall not exceed 5 per cent of the assessed valuation, except that an additional 5 per cent is allowed for supplying the municipality with water, artificial light and sewers, when these utilities are municipally owned and controlled and when the electors have approved the necessary bond issues. The Washington constitution also provides that no municipality "*shall hereafter give any money or property, or loan its money or credit, to or in aid of any individual, association, company, or corporation, except for the necessary support of the poor and infirm, or become directly or indirectly the owner of any stock in or bonds of any association, company, or corporation.*" The Washington legislature in 1909 passed an act authorizing cities and towns "to construct, condemn and purchase, purchase, acquire, add to, maintain, conduct and operate certain public utilities," including electric railways within the limits of the city or town for the transportation of freight and passengers. After repeating the constitutional provision limiting municipal indebtedness, the act goes on to provide that whenever the voters of the municipality have adopted a proposition for a public utility, but either no general indebtedness has been authorized or the public authorities do not desire to incur a general indebtedness, the following plan of financing the utility may be utilized:²

"The common council or other corporate authorities shall have power to create a special fund or funds for the sole purpose of defraying the cost of such public utility or addition, betterment or extension thereto, into which special fund or funds the common council or other corporate authorities of such city or town may obligate and bind the city or town to set aside and pay a fixed proportion of the gross revenues of such public utility, or any fixed amount out of and not exceeding a fixed proportion of such revenues, or a fixed amount without regard to any fixed proportion, and to issue and sell bonds or warrants bearing interest not exceeding six per centum per annum, payable semi-annually, executed in such manner and payable at such times and places as the common council or other corporate authorities of such city or town shall determine, but such bonds or warrants and the interest thereon shall be payable only out of such special fund or funds. In creating any such special fund or funds the common council or other corporate authorities of such city or town shall have due regard to the cost of operation and maintenance of the plant or system as constructed or added to, and to any proportion or part of the revenue previously pledged as a fund for the payment of bonds, warrants, or other indebtedness, and shall not set aside into such special fund a greater amount or proportion of the revenue and proceeds than in their judgment will be available over and above such cost of maintenance and operation and the amount or proportion, if any, of the revenue so previously pledged. Any such bonds or warrants and interest thereon issued against any such fund as herein provided shall be a valid claim of the holder thereof only as against the said special fund and its fixed proportion or amount of the revenue pledged to such fund, and shall not constitute an indebtedness of such city or town within the meaning of the constitutional provisions and limitations. Each such bond or warrant shall state upon its face that it is payable from a special fund, naming the said fund and the ordinance creating it. Said bonds and warrants shall be sold in such manner as the corporate authorities shall deem for the best interests of the city or town, and the corporate authorities may provide in any contract for the construction and acquirement of the proposed improvement that payment therefor shall be made only in such bonds and warrants at par value thereof.

"When any such special fund shall have been heretofore or shall be hereafter created and any such obligation shall have been heretofore or shall hereafter be issued against the same, a fixed proportion, or a fixed amount out of and not exceeding such fixed proportion, or a fixed amount without regard to any fixed proportion, of revenue shall be set aside and paid

into said special fund as provided in the ordinance creating such fund, and in case any city or town shall fail to thus set aside and pay said fixed proportion or amount as aforesaid, the holder of any bond or warrant against such special fund may bring suit or action against the city or town and compel such setting aside and payment."

This plan has been used to a considerable extent by cities in the State of Washington, and in particular by the City of Seattle in achieving municipal ownership of street railways. In this connection it is noteworthy that Seattle is the only large American city that has actually acquired the local electric railway system and assumed the full burden of its capital obligations. The transfer of the Puget Sound Traction, Light & Power lines in Seattle to the city was accomplished at the end of March, 1919, the purchase price being \$15,000,000. Prior to this the city had already owned and operated at a loss for several years a municipal railway in two disconnected divisions, the construction cost of which up to December 31, 1919, was \$1,154,950.40. The city now owns all the local street railways except the Rainier Valley line, and negotiations for the purchase of this road have been under way for some time. The total capital cost of the present municipal railway system of Seattle up to the end of 1919, as indicated by the figures just given, was \$16,154,950.

Of the \$1,154,950 invested in the older municipal lines, only \$100,000 was derived from the sale of street railway bonds. These were 6 per cent bonds put out in 1918 at par. When it came to a question of the purchase of the Puget Sound lines for \$15,000,000 the city made an arrangement with Stone & Webster, owners of the company, to take 5 per cent municipal railway bonds for the full amount of the purchase price, and passed an ordinance providing for the acquisition of the properties in accordance with the terms of the agreement. This ordinance was approved December 31, 1918, by the then mayor of Seattle, Mr. Ole Hanson. Section 2 of this ordinance provides:

"The gross revenues to be derived from the operation of the municipal street railway system of the City of Seattle, including the additions and betterments to, and extensions thereof, herein provided for, at the rates of transportation charged, and to be charged, upon the entire system, will be sufficient in the judgment of the council and of the corporate authorities of the city to meet all expenses of operation and maintenance, including the operation and maintenance of the proposed additions, betterments and extensions, and to provide all proportions or parts of revenue previously pledged as a fund for the payment of bonds, warrants and other indebtedness, with interest thereon, heretofore made payable out of the revenues of the existing municipal street railway system, and to permit the setting aside in a special fund, out of the gross revenues of the entire system, amounts sufficient to pay the interest on the bonds hereby authorized to be issued, as such interest becomes due and payable, and to pay and redeem all of such bonds at maturity. The amounts which the city council and corporate authorities have determined and do hereby determine will be so available for the payment out of such gross revenues into such special fund, to be used for the payment of the interest on such bonds, will, on the first days of February and August in each and every year, beginning with August in the year 1919, be not less than the interest at the rate of five per cent (5%) per annum, payable semi-annually, on the first days of March and September, respectively, next succeeding such days, on all outstanding bonds of the issue of Fifteen Million Dollars (\$15,000,000), to be issued payable at the times and in the manner herein-after specified.

"The city council and corporate authorities have likewise determined and do hereby determine that the amount so available for the payment out of such gross revenues into such special fund to be used for the payment of the principal of such bonds, on the first day of February, 1922, will be not less than Eight Hundred Thirty-three Thousand Dollars (\$833,000), and that there will be so available thereafter for payment out of such gross revenues into such special fund to be used for the payment of the principal of such bonds not less than Eight Hundred Thirty-three Thousand Dollars (\$833,000), on the first day of February in each and every year, to and including the year 1938, and not less than Eight Hundred Thirty-nine Thousand Dollars (\$839,000) on the first day of February, 1939."

Section 5 of the ordinance provides for the establishment of a special fund to be called "Municipal Street Railway Bond Fund, 1919." The city's pledges to maintain this fund and not to dispose of the municipal railway system without providing for the liquidation of the indebtedness incurred in connection therewith are contained in the following language:

"The City of Seattle, after providing for the payment of the proportions or parts of the revenues of the municipal street railway system previously pledged as a fund for the payment of bonds, warrants or other indebtedness, does hereby irrevocably obligate and bind itself to pay into such fund out of the gross revenues of such municipal street railway system, and all additions, betterments to, and extensions of, such system, at any time hereafter acquired, before each semi-annual installment of interest falls due, a sum equal to such semi-annual installment of interest upon all such bonds then outstanding and unpaid; and annually on or before the first day of March, beginning with March 1, 1922, and to and including March 1, 1938, the additional sum of Eight Hundred Thirty-three Thousand Dollars (\$833,000), and on or before the first day of March, 1939, the additional sum of Eight Hundred Thirty-nine Thousand Dollars (\$839,000), for the payment of the principal of such bonds at which time all of such bonds with interest shall be fully paid. Such fund is to be drawn upon for the sole purpose of paying the principal and interest of such bonds from and after the date of such bonds and so long as obligations are outstanding against such fund. The City Treasurer of the City of Seattle shall, semi-annually, one calendar month prior to the date upon which any interest or principal and interest shall become due, set aside and pay into such fund from the gross revenues of the entire municipal street railway system of the City of Seattle, now belonging to it, including the additions, betterments and extensions herein provided for, and any street railway property which it may hereafter acquire, with the equipment thereof, a sum equivalent to the amount of interest so falling due, upon all bonds issued hereunder and then outstanding, and annually one calendar month prior to the first day of March in each and every year, beginning with the year 1922, and to and including the year 1938, the sum of Eight Hundred Thirty-three Thousand Dollars (\$833,000), and one calendar month prior to the first day of March, 1939, the sum of Eight Hundred Thirty-nine Thousand Dollars (\$839,000) as the principal of such bonds falls due, and until all of such bonds with interest thereon be fully paid, and such fixed amounts out of such gross revenues are hereby pledged to such semi-annual payments of interest and such annual payments of principal, and shall constitute a charge upon such gross revenues superior to all charges whatsoever, including charges for maintenance and operation, save and except the charges upon such revenues heretofore created for the payment of principal and interest of One Hundred Thousand Dollars (\$100,000), Seattle Municipal Street Railway Bonds, 1917, authorized by Ordinance No. 37851, as amended by Ordinance No. 37923; and save and except the charges upon such revenues heretofore created for the payment of principal and interest of Five Hundred Fifty Thousand Dollars (\$550,000) 'Railway Extension Bonds, Series A, 1918,' authorized by Ordinance No. 38666, and save and except the charges upon such revenues sufficient to pay warrants drawn upon the City Railway Fund of the City of Seattle issued prior to the taking effect of this ordinance.

"The City Treasurer is hereby directed to make payment of the bonds and coupons herein authorized, as the same fall due, from the moneys in such 'Municipal Street Railway Bond Fund, 1919,' and from no other source. The payment of such bonds and coupons as they fall due is hereby declared to be the only charge which has been made upon such fund or which will ever be made thereon until all of such bonds and the interest thereon shall have been fully paid. The City of Seattle hereby binds itself not to sell, lease or in any manner dispose of the municipal street railway system now belonging to it, or which may hereafter belong to it, including the additions, betterments and extensions herein provided for, until all obligations outstanding against, or payable from, the special fund hereby created, shall have been paid in full, or in case it shall sell or dispose of the same before payment, it shall not make any sale or disposition without then or theretofore providing that from the proceeds of any such sale or disposition, after the payment of all prior charges, there shall be placed in said special fund a sum sufficient in amount to discharge, and to be used for no other purpose than the discharge, of principal and interest of all bonds issued hereunder and then remaining unpaid, and it shall not, in any event, sell or dispose of such municipal street railway system or any substantial part thereof for a sum less than enough to discharge and pay the bonds herein authorized and the interest thereon. The City of Seattle further binds itself to establish and maintain rates for transportation upon such municipal street railway system which shall provide sufficient revenues to permit such sums being paid into such special fund which the city has pledged to be set aside semi-annually for interest, and annually for principal, as herein provided to be applied to the payment of principal and interest of the bonds herein authorized, until such bonds have been paid in full and in addition thereto all costs of operation and maintenance, and all bonds, warrants and indebtedness for which any revenues of such system have heretofore been previously pledged."

Prior to this time the city had not definitely stated in any of the public utility bonds issued under the act of 1909 that the fixed charges upon the indebtedness were to be met even though the operation of the utility should produce a deficit; but when it came to the purchase of the Puget Sound lines the city, in order to increase the security and make the bonds acceptable to the owners of the property, inserted in the ordinance and in the bond itself the language italicized in the above quotation. This provision of the bond ordinance was attacked in the courts by a taxpayer who averred that the proposed bond issue was contrary to the power of the city under its charter and the laws of the state, threatening an indebtedness of the city in excess of the amount permitted by the constitution of the state. Another taxpayer, intervening in the proceeding, maintained that the plan could not be carried out because it had not been submitted to the voters. It should be noted that in October, 1918, the general question as to whether or not the purchase of the Puget Sound lines should be consummated upon the terms proposed was uniformly submitted to the voters of Seattle, and was approved by them by a very large majority, but the ordinances as finally worked out providing for the purchase of the property and the issuance of the bonds were not submitted to popular vote.

The Washington Supreme Court handed down its decision March 5, 1919.³ Seven of the judges concurred in an opinion that "the proposed plan and bonds will not create any indebtedness against the city" and that "the city council has authority to consummate the purchase without the sanction of the qualified voters." They said: "We are satisfied the power of the city has been exercised in the manner provided by the law." The chief justice and one of the associate justices wrote a vigorous dissenting opinion in which they called attention to the vital importance of the issues at stake. The following paragraphs taken from the minority opinion vividly reflect the intense interest aroused by this case:

"The legal effect of the majority opinion is that all of the gross revenues are pledged to the payment of the purchase price; that if the one who renders labor or service as a motorman, conductor or about the tracks and barns of the railway system is to be paid, he may be paid out of the general revenues; that, instead of taking *his pay* in a warrant which is a first charge upon the gross revenues as the law contemplates, he may not, if the gross revenues are insufficient to meet the maturing bonds and interest, have his pay out of the earnings of the utility at all, but must take his chances with a general fund warrant which may be subject to discount and unless sanctioned by subsequent decree of this court will be of doubtful validity.

* * * * *

"If the council did not intend to charge the general fund it might have said so in words. It might have had 'due regard for the costs of maintenance and operation' as the statute directs by reserving an 'amount or proportion' of the revenues of the utility or, being mindful of a possible charge, it should have submitted the measure to the people. The net result of the ordinances as construed by the court is that the cost of maintenance and operation has not been provided for. By the employment of an indirect method, dressed for the occasion in a cloak of words, the law is circumvented, and the people whose right of participation and self-determination was so carefully safeguarded, have been denied the sovereign right of the franchise.

"It was suggested in consultation that the council could raise the rate charged for fares, and thus meet the cost of maintenance and operation out of the revenues of the street car system. Counsel made no such suggestion, as of course they could not, for with the gross revenues of the system pledged irrevocably to the payment of the purchase price the seller or the bondholder, as the case may be, can insist that the gross revenues belong to him, whether they are accumulated by a charge of five, seven, ten or fifty cents for a single fare.

"Whether it is wise for the City of Seattle to purchase the property of the traction company is not of our concern. That is a matter for those who live in that city. That they may

be charged for the upkeep and operation of the street car system is not denied. Our insistence is that before we make it possible—and this is the statute as we read it—they should be heard either in affirmation or negation of the plan.

"To hold that the gross revenues of the system may be irrevocably pledged to the payment of the purchase price as a first charge and then to say that in the judgment of the council the gross revenues will pay the cost and the costs of maintenance and operation is to nullify the statute and put a premium on evasion, pretext, subterfuge, quibbling and equivocation for the expression of such opinion is not a setting aside or a reservation of an 'amount or proportion' to meet these charges. In other words, in case of suit the city would be bound by its irrevocable promise and not by its gratuitous opinion.

"The law was designed to cover not alone what is, but what may be. The plan as outlined by the ordinances is a corruption of the statute providing for the acquisition of public utilities and a direct assault upon the law which provides in terms that the owner of property shall not be called upon to pay a tax upon his property unless three-fifths, or a majority, of the voters, as the case may be, shall so decree.

"Believing that the ordinance was drawn with intent to, or whether with intent it does in legal effect, charge the general fund, or leaves the way open to levy a direct tax, thus violating the letter and spirit of the law, we are constrained to dissent."

Since the purchase of the Puget Sound lines the city has put on the market a new issue of municipal railway bonds to provide for extensions and improvements, amounting to \$790,000, and these have been disposed of on a six per cent basis. The five per cent bonds accepted by Stone & Webster for the Puget Sound lines, it is understood, are held in trust and no effort has been made to dispose of them.

The Seattle Municipal Railway now comprises 228 miles of single track and is said to be the most extensive municipally-operated street railway system in the world. Mr. Thomas F. Murphine, Superintendent of the Department of Public Utilities during 1919, in his annual report for that year gives the following statement of the reasons why the Puget Sound lines were acquired by the city:

"It may not be amiss at this time to again set out some of the principal reasons which prompted the City Government of the City of Seattle to acquire the railway properties of the Puget Sound Traction, Light & Power Company. This company, for a number of years prior, had failed to meet its franchise obligations, including extensions of its lines, paving, maintenance of paving, bridge rentals and payment of a percentage of its gross income tax, and further stated that it was unable to increase the wages of its employes to a point made necessary by an increased cost of living; and, moreover, its service to the public under the trying 'war' conditions and the industries incident thereto, had completely broken down. The company was not only asking to be relieved from all of its franchise obligations but was demanding an increase in fare from a 5-cent to a 6-cent fare, with one cent additional for transfers."

Early in 1920 as the result of a city election in which a new mayor was chosen, Superintendent Murphine resigned, and the operation of the municipal railway lines was in part reorganized. Considerable controversy had arisen about the financial results of operation. The public utilities department claimed a surplus of \$10,659 from operation during the seven months subsequent to the acquisition of the Puget Sound system. For the first three months of 1919 the original municipal lines were operated at a loss of \$1,543, exclusive of interest amounting to \$7,947, and for the period from May 23, 1914, when operation first started, to March 31, 1919, the operating losses aggregated \$62,250, exclusive of \$121,010 for interest. These are the figures given in Mr. Murphine's report. Mr. Murphine stated that the gross revenue of the combined lines for the seven months period from April 1 to November 1, 1919, was \$384,520.85 greater than the revenue for the corresponding period of 1918, but that the known operating expenses showed an increase of \$60,154.13. He explained

that this increase in expense was due principally to a 33 per cent increase in wages, an increase in service amounting to 21 per cent as measured by car hours and 15 per cent as measured by car miles, and an increase of \$257,125.97 in maintenance and rehabilitation expenses. He pointed out that the total expense for maintenance amounted to about 19 per cent of gross revenues, and added: "This expenditure approximates in percentage that which bonding companies handling securities of public utilities and other companies consider as a sufficient expenditure or appropriation for both maintenance and depreciation." In fact, the Puget Sound Traction, Light & Power Company, prior to the sale of its property, followed the rule of estimating annual depreciation at 20 per cent of gross earnings, less the amounts actually expended for maintenance.

The new mayor of Seattle, Mr. Hugh M. Caldwell, not being entirely satisfied with the management of the municipal railway, caused the city comptroller to prepare a statement of the financial results of municipal railway operation for the calendar year 1919, including nine months' operation of the combined system. In his computation the city comptroller used depreciation figures estimated by a representative of the State Bureau of Inspection and Supervision of Public Offices. Apparently the \$15,000,000 paid for the Puget Sound lines was based upon their claimed book cost to the company without deduction for accrued depreciation. The method followed in making the estimates for accruing depreciation, used by the city comptroller, was to take the property at its ledger value as shown in separate accounts, redistribute "engineering and superintendence" and "track and roadway labor" among the base cost accounts to which they refer, deduct "land" and "materials and supplies" as undepreciable, and then apply to the remaining accounts aggregating \$14,352,281 various percentages for annual depreciation figured on the straight-line basis. In this way a depreciation charge of \$451,774.97 on the purchased lines was figured out for the nine months of municipal operation. In like manner the depreciation charge against the original municipal lines for the full 12 months was fixed at \$47,398.42. The percentages used and the assumed useful life from which they were derived in connection with the several classes of depreciable property were as follows:

<i>Class of Property</i>	<i>Assumed Useful Life</i>	<i>Annual Depreciation</i>
WAY AND STRUCTURES		
Cable station buildings	50 years	2%
Grading	200 years	½%
Ballast	200 years	½%
Ties and stringers	14¼ years	7%
Rails, fastenings and joints.....	33¼ years	3%
Special work.....	12½ years	8%
Underground construction	33¼ years	3%
Paving	25 years	4%
Roadway machinery and tools.....	12½ years	8%
Bridges, trestles and culverts.....	20 years	5%
Crossings, fences and signs.....	10 years	10%
Signals and interlocking apparatus.....	10 years	10%
Telephone and telegraph lines.....	20 years	5%
Poles and fixtures.....	20 years	5%
Distribution system	25 years	4%
Shops and car houses.....	50 years	2%
Stations, miscellaneous buildings and structures.....	12½ years	8%
Park and resort property	33¼ years	3%

<i>Class of Property</i>	<i>Assumed Useful Life</i>	<i>Annual Depreciation</i>
EQUIPMENT		
Passenger cars	21 years (+)	4 $\frac{3}{4}$ %
Freight, express and mail cars.....	21 years (+)	4 $\frac{3}{4}$ %
Service equipment	21 years (+)	4 $\frac{3}{4}$ %
Electric equipment of cars	20 years	5%
Shop equipment	20 years	5%
Cable station equipment.....	20 years	5%
Furniture	10 years	10%
Miscellaneous equipment, automobiles..	5 years	20%
MISCELLANEOUS AND GENERAL		
Law expenditures	23.8 years (+)	4.2%
Interest during construction.....	23.8 years (+)	4.2%
Injuries and damages.....	23.8 years (+)	4.2%
Taxes	23.8 years (+)	4.2%
Miscellaneous expenditures.....	23.8 years (+)	4.2%
All depreciable property.....	23.8 years (+)	4.2%

By charging depreciation on the basis above indicated the city comptroller figured out a net loss of \$517,173.79 resulting from the municipal railway operations in 1919. This was without making any provision for sinking fund or amortization. It will be remembered that beginning with 1922 the city will have to make an annual payment of \$833,000 on the principal of \$15,000,000 bonds representing the purchase price. With respect to this obligation, Superintendent Murphine said in his report:

"In connection with a number of criticisms, publicly and privately made, recently, to the effect that we are at present not setting aside a fund to enable us to retire bonds when same fall due, would state that no one, to our knowledge, ever expected the purchased system to even pay operating expenses during the first year of operation under city management. In fact, this department urged the City Council to make the first payment six years after purchase, depending upon the natural increase in revenue from transportation to show a sufficient amount at the time the first payment on the bonds falls due, to meet the same.

"Our increase for this year over the receipts of the company, combined with the city lines of last year, will approximate 11 $\frac{1}{2}$ per cent. If this increase should continue for the first three years at even 7 per cent (which is less than the average percentage of yearly increase of the city's population during the last ten years), and if we are enabled to obtain funds to remodel at least 75 per cent of the cars now in operation, known as two-man cars, to permit of their operation by one trainman, we shall be able to eliminate approximately \$750,000.00 per year of expense. This, together with the natural increase in the year ending March 1, 1922, will show revenue more than sufficient to make the first payment on the bonds."

The city comptroller's analysis of the financial results of municipal railway operation in 1919 is shown on the opposite page.

It will be seen that all but \$18,000 of the loss attributed to the year's operations was due to the depreciation charge, which was in addition to an expenditure of 19.6 per cent of the gross earnings in maintenance. The city comptroller also furnished a memorandum commenting upon the figures shown above, and pointing out that in certain respects the municipal railway was being favored from the accounting standpoint. The comptroller's memorandum follows:

"The above statement of income, profit and loss of the city railway department does not include certain expenses, properly chargeable to railway operation, borne by the general fund and charged by authority of the legislative body of the city to the expense of the respective departments rendering the services.

"When the city acquired the traction properties of the Puget Sound Traction, Light & Power Company on the first of April, 1919, it became necessary to increase the number of employes in several general fund departments. In the corporation counsel's office, two assistants to the corporation counsel, five claim agents, one law clerk and two stenographers were added to the force. Owing to the large grist of damage claims and increased litigation, expense for office supplies, stationery and printing, postage, etc., was materially increased.

STATEMENT
CITY OF SEATTLE
MUNICIPAL STREET RAILWAY DEPARTMENT
INCOME, PROFIT AND LOSS FOR THE YEAR ENDING DECEMBER 31, 1919.

EXPENSE

Operating:

Way and structures (maintenance of roadway, bldgs. and grounds)	\$282,992.92	
Equipment (maint. of cars, shop equip., autos, etc.).....	528,506.57	
Power (power produced and purchased).....	558,528.50	
Conducting transportation (trainmen, car barn and car service expense)	1,950,459.70	
Traffic (advertising park and resort attractions).....	2,228.33	
General and misc. (gen. office exp.; ind. insu.; injuries and damages; stationery and ptg.; store exp.; rent of track and facilities)	245,109.09	
Auto buses (exp. of auto buses connecting outlying territory with end of car line).....	904.16	
	<hr/>	
Depreciation of road and equipment.....	\$3,568,729.27	\$4,067,902.66
	499,173.39	

Deductions from Gross Income:

Interest on General Bonds.....	\$23,281.23	
Interest on Revenue Bonds.....	579,683.83	
Amortization of discount on Revenue Bonds.....	2,314.01	
Misc. Interest (interest on Railway Fund Warrants).....	2,145.26	607,424.35
	<hr/>	
		\$4,675,326.99

REVENUE

Operating Revenue:

Passenger car service.....	\$4,030,602.04	
Special passenger car revenue	471.00	
Auto bus service	274.79	
Express service (carrying newspapers)	3,948.00	
Freight service	32,112.18	
Mail service	6,212.60	
Mun. employment passenger service (Police & Firemen)...	38,000.00	
Miscellaneous transportation service	3,264.53	\$4,114,885.14
	<hr/>	

Miscellaneous Revenue:

Station and car privileges (advertising privileges on stations and cars)	\$12,946.50	
Rent of cars	3,523.04	
Rent of track and facilities.....	20,937.98	
Rent of real estate	4,638.54	
Electric current sold	578.78	
Other miscellaneous revenue	643.22	43,268.06
	<hr/>	

		\$4,158,153.20
Net loss for the year 1919.....		517,173.79

\$4,675,326.99

"The total cost of the city railway legal business borne by the general fund in 1919, was about \$20,000.00; the purchasing department expenses were increased approximately \$5,000.00; the expense of the comptroller's department for auditing claims, issuing warrants and keeping accounts of the railway department cost in round figures \$6,000.00. In addition, there was an increase in the city treasurer's office expense of about \$1,000.00 for handling city railway business in 1919. In the public utilities department, all the superintendent's salary of \$4,500.00 and half of the auditor's salary of \$3,240.00 have been charged to that department and paid from the general fund, notwithstanding more than two-thirds of their time has been devoted to railway operation.

"Altogether some \$35,000.00 of expense for the railway department was paid in 1919 out of the general fund. It is true that the general fund receives two per cent per annum on all railway fund money on deposit in city depositories, which would amount to perhaps \$15,000.00 in 1919.

"Similar expenses of light and water utilities, though relatively small, are likewise borne by the general fund and are consistently subject to the same criticism.

"Loans and advances have been made the railway fund, altogether amounting to \$200,000.00, by other funds, principally by the general fund, without charge for interest. This practice is not new. It has been the custom of the legislative body to make loans to other utilities from various funds without providing for interest payment thereon, same being, in my judgment, a questionable policy.

"In the budget for 1920, provision was made by the city council for reimbursement to the light department depreciation reserve fund of an item of \$25,000.00 previously loaned by that fund to the railway department. In accordance with this plan, the \$25,000.00 was included in the general fund tax levy for 1920 and in February of this year was paid by the general fund, thus relieving the railway fund of this liability and reducing the total loans and advances from \$200,000.00 to \$175,000.00. In other words, the city made a levy of \$25,000.00 for the benefit of the city railway.

"Another matter that should now be presented for consideration is the provision for redemption of outstanding railway bonds. On the first day of February, 1922, \$833,000.00 of the \$15,000,000.00 of bonds issued by the traction company will be due and payable. Each succeeding year till 1929, a like amount will fall due. Thereafter, this amount will be increased by the addition of other serial bonds falling due, yet no sinking fund provision has been made by the city to take care of these redemptions."

It appears that under the Seattle plan, if the conditions of the purchase ordinances and the city comptroller's ideas about depreciation are fully carried out, the car riders will be compelled to pay for the property within twenty years and also build up a large depreciation reserve. Depreciation and maintenance together as set up in the comptroller's statement amounted to 31.6 per cent of gross revenues in 1919. If a proportionate part of the annual payment of \$833,000 for amortization, which is due to begin in 1922, had been charged last year, the maintenance, depreciation and amortization charges would have been nearly 47 per cent of the gross receipts. It is obvious that such a policy as this, if carried through, would do great things for street railway credit whether under private ownership or under the Seattle plan.

Undoubtedly, there is a tendency in some places to put obstacles in the way of the use of public credit by setting up standards of financial conservatism for municipal operation that in all fairness may be described as unreasonable.

Seattle is making a laudable effort to keep the fare down to five cents while paying a living wage and improving the property and the service.⁴ San Francisco is doing likewise on its municipal railway, but during the past year has found it necessary to trench somewhat upon its liberal depreciation reserve in order to meet operating expenses. For the twelve months ended June 30, 1919, the San Francisco municipal railway shows a "gross profit" of \$88,964, after paying operating expenses and interest and setting aside 18 per cent of gross receipts for depreciation and accident reserve, but without having made any provision for taxes, car license fees and insurance, which under private owner-

ship would have amounted to \$205,771, according to the official estimate. Maintenance expenses during this period were less than nine per cent of the gross earnings. In the month of February, 1920, maintenance expenses were about 10.5 per cent, and after the deduction of the customary 18 per cent for reserve, the month showed a deficit of \$1,535 with gross earnings of \$205,744. The depreciation and accident reserve on June 30, 1919, amounted to \$1,809,890 or somewhat more than 26 per cent of the property investment. In San Francisco bonds for municipal railway purposes are issued against the general credit of the city within the debt limit.

Detroit shows its conservatism by requiring as a part of its municipal ownership program that fares shall be placed high enough to pay not only operating expenses and interest charges, but also regular taxes and amortization charges sufficient to provide for the retirement of all the bonds upon maturity. Under the terms of the city charter bonds for public utility purposes may be issued against the general credit of the city to the extent of two per cent of the assessed valuation, but any additional bonds required for the acquisition or construction of public utilities will have to be issued against the utility property with the protection of a contingent or security franchise.

Wisconsin was one of the pioneer states to establish a comprehensive public utility policy, including the indeterminate franchise, unrestricted state regulation, and the right of the municipalities to acquire public utilities at a price to be fixed by the state commission. Nevertheless, as in so many other states, the use of municipal credit for the acquisition of public utilities is limited by a provision of the constitution which states that no municipal corporation "shall be allowed to become indebted in any manner or for any purpose to any amount, including existing indebtedness, in the aggregate exceeding five per centum on the value of the taxable property therein."

At the 1919 session of the Wisconsin legislature a bill sponsored by the League of Wisconsin Municipalities in the interest of Superior, Green Bay, Madison, Racine and a number of other cities was passed, by which a plan somewhat similar to the Washington plan was made available for the financing of municipal utilities. I have been informed by the secretary of the Wisconsin league that this bill was drafted by a partner of the late Judge Dillon, the well-known authority on municipal bonds and municipal law, that its passage was opposed by all the privately owned utilities, and that many of the attorneys for public utility corporations appeared before the legislative committee to oppose the bill, not as representatives of their corporations, but "in the interests of the taxpayers." My informant says: "Of course Wisconsin cities have had for some time full powers to purchase their utilities and, as the committee repeatedly pointed out, this bill was not designed to give the cities any additional powers insofar as the purchase of utilities was concerned, *but merely to enable them to pay for them.* Of course, the utilities had difficulty in justifying their opposition to the bill, everybody being skeptical about their great interest in behalf of the taxpayer." It may be said without fear of successful contradiction that the public utilities themselves are in large measure responsible for the extent to which public credit has been made unavailable for use in the present emergency

of the electric railway industry. The Wisconsin bill referred to, as finally enacted, provides that whenever the qualified voters of any city, village or town shall have determined by majority vote to purchase, acquire or construct any public utility the common council or other governing authority of the municipality shall be authorized to provide for the initial payment and for any necessary extensions, additions and improvements in the following manner:

"2. Said common council or other governing authority shall by ordinance set aside the income and revenues of such public utility into a separate and special fund to be used and applied in the maintenance and operation thereof, and in the payment of the cost thereof. Said ordinance shall fix and determine (a) the proportion of the revenues of such public utility which shall be necessary for the reasonable and proper operation and maintenance thereof; (b) the proportion of the said revenues which shall be set aside as a proper and adequate depreciation account; and (c) the fixed proportion of the said revenues which shall be set aside and applied to the payment of the principal and interest of the bonds herein authorized.

"3. In fixing and determining the proportion of the revenues of such public utility required for operation and maintenance, the common council or other governing authority shall have regard to the cost of operation and maintenance of the utility, and shall not set aside into such special fund a greater amount or proportion of the revenues and proceeds thereof than in their judgment shall be properly required for the said operation and maintenance. The sums so set aside for operation and maintenance shall be used and applied exclusively for that purpose, until the accumulation of a surplus of the amount hereinafter specified.

"4. The proportion set aside to the depreciation fund shall be expended in making good depreciation in the said public utility or in new constructions, extensions or additions to the property of such public utility. Any accumulations of such depreciation fund may be invested, and if invested, the income from the investment shall be carried in the depreciation fund. Said fund and the proceeds thereof shall not be used for any purpose, other than as herein provided.

"5. The fixed proportion which shall be set aside for the payment of the principal and interest of the bonds herein authorized shall from month to month as the same shall accrue and be received, be set apart and paid into a special account in the treasury of the said city, village or town, to be identified as 'THE..... BOND AND INTEREST REDEMPTION ACCOUNT,' the full title of such account to be specified by the said ordinance. In fixing and determining the amount or proportion which shall be set aside for the payment of the principal and interest of the bonds herein authorized, the common council or other governing authority may provide that the amount to be set aside and paid into the said bonds and interest redemption account for any year or years shall not exceed a fixed sum which sum shall be at least sufficient to provide for the payment of the interest and principal of the said bonds maturing and becoming payable in each such year, together with a surplus or margin of ten per cent in excess thereof.

"6. If any surplus shall be accumulated in the said operating and maintenance fund, which shall be equal to the cost of maintaining and operating the said plant during the remainder of the calendar, operating or fiscal year then current, and the cost of maintaining and operating the said utility during the calendar, operating or fiscal year then next ensuing, any excess over such surplus may be by said common council or other governing authority transferred to either the depreciation account to be used for any improvements, extensions or additions to the properties of such public utility, or to the bond and interest redemption account, as said common council or other governing authorities may designate.

"7. If and when a surplus shall be created in the said bond and interest redemption account which shall be in excess of the interest and principal of any bonds becoming payable during the calendar, operating or fiscal year then current, together with the amount of interest or principal of any bonds which shall become due and payable during the calendar, operating or fiscal year then next ensuing, the said common council or other governing authority may transfer any excess over such surplus to either the operation and maintenance account, or to the depreciation account, which said common council or other governing authorities may designate.

"8. To provide for the payment thereof and to provide for any extensions, additions and improvements thereof, the said common council or other governing authority shall be and is hereby authorized to issue and sell bonds bearing interest at a rate not exceeding six per centum per annum, payable annually or semi-annually, executed in such manner and payable at such times not exceeding forty years from the date thereof, and at such places as the common council or other governing authority of such city, village or town shall determine, which bonds shall be payable only out of the said special redemption fund.
• • • • Any such bonds and the interest thereon issued against any such redemption fund shall be a valid claim of the holders thereof only against the said special redemption

fund and the fixed proportion or amount of the revenues pledged to such fund, and shall not constitute an indebtedness of such city, village or town within the meaning of the constitutional provisions and limitations. Each such bond shall state plainly upon its face that it is payable only from the special fund, naming the said fund and the ordinance creating it and that it does not constitute an indebtedness of such city, village or town. * * * * Such bonds shall be sold in such manner and upon such terms as the governing authorities shall deem for the best interests of said city, village or town, provided, however, that such bonds shall not be sold for less than par. The governing authorities may provide in any contract for the purchase, acquisition or construction of any utility, that payment thereof shall be made in such bonds at the par value thereof.

* * * * *

"10. The rates for all services rendered by such public utility to the municipality or to citizens, corporations or other consumers, shall be reasonable and just, taking into account and consideration the value of the said public utility, the cost of maintaining and operating the same, the proper and necessary allowance for depreciation thereof, and a sufficient and adequate return upon the capital invested.

"11. All moneys received from any bonds issued pursuant hereto shall be applied solely for purchasing, acquiring or constructing such public utility, and in the payment of the cost of any necessary extensions, additions and improvements, and there shall be and there is hereby granted and created a statutory mortgage lien upon the public utility so purchased, constructed or acquired to and in favor of the holders of the said bonds and each of them, and to and in favor of the holders of the coupons of said bonds. The public utility so purchased, acquired or constructed shall remain subject to such statutory mortgage lien until the payment in full of the principal and interest of the bonds issued pursuant thereto. Any holder of the said bonds or of any of the coupons attached thereto may either at law or in equity by suit, action, mandamus or other proceeding, protect and enforce the statutory mortgage lien hereby conferred, and may by suit, action, mandamus or other proceedings, enforce and compel performance of all duties required by this act, of the city, village or town issuing the said bonds or of any officer thereof, including the making and collecting of reasonable and sufficient rates lawfully established for service rendered by such utility, the segregation of the income and revenues of the said utility and the application of the respective funds created pursuant to the provisions of this statute. If there be any default in the payment of the principal or interest of any of the said bonds, any court having jurisdiction of the action may appoint an administrator or receiver to administer the said public utility on behalf of the said city, village or town and the said bondholders, with power to charge and collect rates lawfully established sufficient to provide for the payment of the operating expenses and also to pay any bonds or obligations outstanding against said utility, and to apply the income and revenues thereof in conformity with this statute and the said ordinance, or the said court may declare the whole amount of said bonds due and payable and may order and direct the sale of the said public utility. Under any sale so ordered, the purchaser shall be vested with an indeterminate permit to maintain and operate the said public utility. If any city, village or town shall have acquired or constructed any such public utility and shall have paid therefor and for any extensions and betterments authorized at the time of acquisition in the manner herein provided, such city, village or town may provide for the extension, addition or improvement of such public utility by an additional issue or issues of bonds in the manner herein provided; provided, however, that such additional issue or issues of bonds shall be subordinate to all prior issues of bonds which may have been made hereunder. Any city, village or town may issue new bonds in the manner herein provided and secured in the same manner, to provide funds for the payment of the principal and interest of any bonds then outstanding, provided that upon any re-issue of such bonds the question shall not be required to be submitted to the electors whenever such re-issue shall be approved by a vote of not less than two-thirds of the common council or other governing authority. * * * "

It will be observed that this Wisconsin act combines the security of the Washington plan with the security of the Mueller certificate plan. The bondholder will have a double remedy. He can either enforce his rights by an action to compel the municipality to charge adequate rates to make the utility self-sustaining, or in case of default he can institute a proceeding that will cause the property to be operated by a receiver or to be sold at foreclosure. In the latter case the purchaser will have the right to continue the operation of the property under an indeterminate permit and subject to the regulatory laws of Wisconsin.

To the extent that the use of public credit for electric railway purposes

without the assumption by the public of the existing investment burden proves to be feasible in particular cases, there is considerable hope that some plan of special assessments against the property benefited may be devised to take care of street railway extensions. This plan was suggested by Dr. Milo R. Maltbie in his testimony before the Commission, who called particular attention to a study of this subject made by the City Club of New York some years ago in connection with the rapid transit problem. At page 2099 of the Proceedings, Dr. Maltbie says that in his opinion the justification for the use of special assessments in the case of a transportation line is particularly strong because "there is not anything that will develop the value of property if the lines are properly selected * * * * so much as the transportation system." Mr. Lawson Purdy, who for many years was president of the department of taxes and assessments of New York City, filed a memorandum on the subject of special assessments which appears in full in the Proceedings. Mr. Purdy calls attention to the fact that electric railway extensions constructed by the companies under present conditions will constitute an especially heavy burden on the fare payers, and to the further fact that the building of a new railway or an extension enhances the value of the land tributary to it. At page 2124 of the Proceedings, he says:

"It is generally true of the building of an electrical railway, as in the building of any other highway, street, or road, that if it does not enhance the value of land by at least as much as it costs it should not be built."

A little further on, at page 2125, after referring to the use of special assessments for more than a hundred years past as a means of paying for street improvements, Mr. Purdy adds:

"This method of paying for certain public improvements has not only the advantage of obtaining the money and obtaining it from those who receive the financial benefit, but it has an added advantage. Real estate owners are prone to demand public improvements that they think will benefit their property even though such improvements are premature. If such owners know that they must pay for these public improvements they are less likely to demand them in advance of real need."

Mr. Purdy thinks that the special assessment policy would tend to true conservatism in the construction of street railway extensions, while at the same time keeping the way open for them where they are really needed. At page 2125 of the Proceedings, he says:

"Among the advantages of paying for electrical railways by assessment, whether owned and operated by public authority or by private corporations, will be that extensions will not be constructed unless they are actually needed. They can be constructed, however, if the operating revenue is sufficient to meet operating expenses and maintenance, while the extensions could not be built if the revenue had to be sufficient not only for operating expenses and maintenance but also to pay interest and installments upon the original cost.

"By pursuing the policy, wherever practicable, of building electric railways by special assessments levied upon the property benefited, capital will steadily be diminished until ultimately we may hope that the entire capital will be amortized and the railways thereafter can be run for rates sufficient and only sufficient to pay operating expenses and maintenance."

Mr. Purdy does not offer the special assessment plan as a solution of the difficulties due to the depreciated dollar, but adds at the close of his statement, at page 2126 of the Proceedings:

"If it is possible to continue to operate electric railways at all, this plan if adopted will permit of such extension of their facilities as may be needed and promises a continual betterment of their financial condition."

It is clear that the problem of electric railway credit could be solved by public ownership, if the legal, financial and political difficulties in the way were removed, but in view of these difficulties this remedy cannot be applied on a large scale immediately. The American Electric Railway Association brief closes with the following statement:

"Private ownership and management must continue for some time and, with provisions for readily and equitably changing to public ownership and operation, should it later be desirable, the recommendations of the Commission must necessarily deal with utilities, financed with private capital and managed by private enterprise."

"Financed with private capital and managed by private enterprise!"—this flat rejection of the idea of the use of public credit as a means for correcting the ills of the present critical situation makes the solution more difficult. There is grave danger that continued reliance upon private credit can be made effective, if at all, only by paying a "prohibitive" price for new capital and relaxing public control to such an extent as to give the electric railway companies performing this public function an independence and freedom from restraint greater than they have ever enjoyed in the past. It is to go forward or to go backward, and in all likelihood the exigencies of credit will determine the length of journey in either direction. It may be that we have now reached one of those exceptional crises in the development of community life, where the unreadiness and muddle-headedness of government will fall into a panic with the approach of responsibility and meekly meet whatever conditions are laid down by those who are in possession of existing transportation facilities and have experience in rendering transportation service. There is no telling what a panicky and conscience-smitten public will do to avoid "the intolerable toil of thought." To relax unprofitable restraints and to lift unreasonable burdens is a just and expedient policy, but to take a single step backward in the essential control of transportation service by public agencies would be unwise and would doubtless entail the unhappy ultimate results of public unwisdom.

CHAPTER XLIII

THE ELECTRIC RAILWAY LABOR PROBLEM

In the discussion of the plight of electric railway capital, and the failure of electric railway credit, we have been compelled to travel a long road. And now that we are at a place where conclusions are due, the labor problem requires special consideration in the readjustment of the public relations of the industry. What suits the stockholder and the bondholder may not suit the man on the job. If we have exaggerated the importance of capital, the conductors, the motormen and the shopmen arise to correct us—and so we cannot escape the labor problem if we would.

Capital is helpless to render transportation service without the assistance of labor. The public cannot have continuity of transportation service, or for that matter any transportation service at all, without the cooperation of labor. During the war the supply of labor in the electric railway business was short, just as it was in many other industries. It cannot be said, however, that prior to the war any particular difficulty was ever experienced over a prolonged period in securing men to operate street railways. Ordinarily the companies had men on the waiting list. While the car crews of an electric railway have positions of considerable responsibility, the work they do does not require a very high degree of education or a great deal of technical training and experience. It is well known that the street railways have heretofore recruited their labor forces largely from the continuous stream of migration of farmers' sons from the country to the city.

The condition in the electric railway industry at the present time is that the wages paid are nominally much higher than they were a few years ago. As a result of the work of the National War Labor Board the wages in this industry were more or less standardized throughout the country, but since the War Labor Board ceased to operate these standards have been more or less upset by the results of strikes and labor negotiations on particular systems. At the present time there is a wide variation in the rate of wages paid, even where no substantial variations seem to be warranted by differences in living conditions and the character of the work done. The last wage yearbook of the Amalgamated Association of Street and Electric Railway Employes of America, issued January 1, 1920, contains the wage rates paid on more than 300 unionized electric railway systems in the United States and Canada.¹ From this source I have prepared the table shown on pages 532 and 533, giving the wage rates for trainmen on the principal urban transportation systems of the two countries so far as they are unionized.

What has happened since the beginning of the World War is illustrated

in a somewhat extreme way by the course of wages on the Cleveland Railway operating under what is recognized as the most successful of the service-at-cost franchises. From June 15, 1910, until May 1, 1915, which includes the first nine months of the war, the wages of conductors and motormen in Cleveland were 27 cents per hour for the first year and 30 cents per hour thereafter. The new rate of wages agreed upon in May, 1920, is 70 cents per hour for the first three months of service, 73 cents for the next nine months, and 75 cents after the first year. It will be seen that this represents an increase of 150 per cent in the maximum rate of pay over the rates that were in force when the World War broke out. Doubtless, the increases for the industry as a whole during this same period have not averaged so much. But in 1919, the first year after the fighting in Europe ceased and when the return of the soldiers to civil life had a tendency greatly to increase the available labor supply, there was an epidemic of strikes which resulted in great losses of revenue to many of the principal electric railway companies, in great inconvenience to the public, and generally in radical advances in wages, sometimes with a provision for back pay. The following list of strikes, with the approximate loss of revenues resulting therefrom, has been compiled from traffic and revenue data supplied to the Executive Secretary of the Commission by the companies concerned:

STRIKES ON PRINCIPAL ELECTRIC RAILWAY SYSTEMS IN THE UNITED STATES DURING 1919

<i>City or System</i>	<i>Date of Strike</i>	<i>Duration of Strike</i>	<i>Approximate Loss in Revenue</i>
NEW YORK			
Interborough Rapid Transit Company.....	Aug. 17	2 days	\$230,000
CHICAGO			
Elevated Lines.....	July 29	4 days	140,000
Surface Lines.....	July 29	4 days	400,000
BOSTON	July 17	4 days	320,000
NEW JERSEY			
Public Service Railway Company.....	Mar. 12	6 days	300,000
DETROIT	June 8	5 days	275,000
CLEVELAND	July 6	2 days	75,000
PITTSBURGH	May 15	4 days	170,000
	Aug. 15	14 days	600,000
EASTERN MASSACHUSETTS			
Bay State Lines.....	June	3 days	130,000
LOS ANGELES			
Los Angeles Railway.....	Aug. 15	6 weeks (partial)	175,000
Pacific Electric Railway.....	Aug. 16	6 weeks (partial)	380,000
THE KANSAS CITIES.....	Jan. to Mar.	3 months	400,000
MILWAUKEE	Jan. 1	1 day	16,000
PROVIDENCE	July 19	19 days	400,000
SEATTLE	Feb. 6	4 days	75,000
COLUMBUS, O.....	Sept. 3	4 days	25,000
DES MOINES.....	Aug. 12	8 days	18,000
NASHVILLE	Aug. 20	1 day	5,000
			<hr/>
			\$4,134,000

While the losses from strikes indicated above aggregate a considerable sum of money, and in particular cases, no doubt, bore heavily upon the companies, still \$4,000,000 was only about two-thirds of one per cent of the total revenues collected during 1919 by the companies from whose reports these strike data were compiled. In view of the number of big systems involved, the revenue

HOURLY WAGE RATES (CENTS) OF CONDUCTORS AFFILIATED WITH THE AMALGAMATED ASSOCIATION OF STREET AND ELECTRIC RAILWAY EMPLOYEES IN PRINCIPAL CITIES OF UNITED STATES AND CANADA AS OF JANUARY 1, 1920.

NOTE. The wages given in this table are for regular conductors operating the ordinary type of equipment on city service. The wages of motormen were in most cases the same, but on the Chicago elevated lines the motormen received 67 cents per hour, and on the Boston elevated lines the motormen received 56 cents per hour for the first 3 months; 57 cents for the next 9 months, and 62 cents thereafter.

CITIES IN UNITED STATES	Number of local	First 3 months		Second 3 months		Second 6 months		Third year	Fourth year	Fifth year	After 5 years
		months	months	months	months	1st 6 mos.	2nd 6 mos.				
Brooklyn (Rapid Transit).....	857	54	54	54	55	{ 1st 6 mos. 55 { 2nd 6 mos. 57	57	57	57	57	57
Brooklyn (Surface lines)	918	52	52	52	52	{ 1st 6 mos. 55 { 2nd 6 mos. 57	54	57	62	62	62
Staten Island, N. Y.	726	40	40	40	42½	{ 1st 6 mos. 42½ { 2nd 6 mos. 45	45	45	45	45	45
Chicago (Elevated)	308	62	62	62	62	62	62	62	62	62	62
Chicago (Surface)	241	60	61	61	63	63	65	65	65	65	65
Boston (Surface)	589	50	55	55	55	60	60	60	60	60	60
Boston (Rapid Transit) Guards..	589	53½	54	54	54	54	50	56	56	56	56
Newark, Hoboken, Jersey City, Paterson, Elizabeth, Camden, etc.	819,820,821 822 823, 889, etc.	46	48	48	48	48	50	50	50	50	50
Detroit	26	50	55	55	55	55	60	60	60	60	60
Cleveland	268	55	58	58	58	60	60	60	60	60	60
Pittsburgh	85	49	52	52	52	54	54	54	54	54	54
St. Louis	788	50	50	50	50	55	55	60	60	60	60
New Haven, Hartford, Bridgeport, etc.	281, 425, 459, etc.	44	44	44	44	44	45	46	47	48	50
Fall River, Lynn, Lawrence, Lowell, etc.	174, 238 261, 280, etc.	46	49	49	49	49	51	51	51	51	51
Los Angeles	835	41	43	43	43	43	45	46	47	47	47
San Francisco	518, 687	62½	62½	62½	62½	62½	62½	62½	62½	62½	62½
Buffalo	623	43	46	46	46	46	48	48	48	48	48
Rochester, Syracuse and Utica....	282,580,582	46	49	49	49	49	45	45	45	45	45
Washington, D. C.	689, 875	46	49	49	49	49	51	51	51	51	51
Providence	618	51	54	54	54	54	56	56	56	56	56
Cincinnati	634	43	46	46	46	46	48	48	48	48	48
New Orleans	194	38	40	40	40	40	42	42	42	42	42
Oakland	192	48	51	51	51	54	54	54	54	54	54
Richmond, Va.	910	37	37	37	37	37	38	38	40	42	42
Norfolk	891	43	45	45	45	45	47¼	47¼	47¼	47¼	47¼
Seattle	587	59½	59½	59½	62½	62½	65½	65½	65½	65½	65½

losses seem small. The additional expense to the companies in the form of wage increases enforced by the strikes was undoubtedly very much greater than the revenue losses, and the fact that most of the strikes were so quickly and easily won proves either that the men undeniably had a just claim to the higher pay awarded them, that the companies have been weakened in their relation to wage controversies by economic forces beyond their control, or that the prospect of passing the burden on to the car riders in the shape of higher fares made them less keen to resist labor's demands. Probably all these factors were working together to bring about the results which inevitably tend to higher unit costs in the production of local transportation service. Up to May, 1920, the indications are that the present year will see another series of labor disturbances in the electric railway field and further radical increases in the wages paid.² While the War Labor Board was in existence there was a national agency to which both parties could appeal for the arbitration of wage questions; but no such agency will now be present to meet the problems that arise as the contracts between the local divisions of the Amalgamated Association and the employing companies expire from time to time, or to meet the problems that arise where the employes on unorganized systems get together to demand larger pay and the recognition of the union.

The exigencies of the war period have undoubtedly strengthened the unions. The number of local divisions of the Amalgamated Association increased from about 160 in January, 1910, to 187 in January, 1916, and to 328 in January, 1920. Thus, it will be seen that the number of locals has more than doubled in ten years. Moreover, the Amalgamated Association claims an increase of about 40,000 individual members during the war period. It is clear, therefore, that the industry is now more thoroughly unionized than it ever was before.³

Another element of strength for organized labor is the fact that at the present time a street railway strike is relatively not quite so serious a matter from the public point of view as it was before the advent of the automobile. For this reason the operating companies cannot place so much dependence upon the pressure of public need to support them in the use of strikebreakers to keep the cars in operation. In fact, it seems to have become almost a general custom for electric railway companies to submit to a complete suspension of service when a strike takes place and to make very little or no effort to resume operation until the strike has been settled and the old employes come back. An occasional exception may still be noted, as, for example, the policy of the Kansas City Railways Company during the prolonged strike extending from December 11, 1918, to March 31, 1919. It will be remembered that the number of revenue passengers carried by the Kansas City Railways Company in the two Kansas Cities during the first nine months of 1919 was 18 per cent less than the number carried during the first nine months of 1917. At the same time the average increase in fare was 20 per cent, and no doubt accounts in part for the loss of traffic. It may be safely assumed, however, that a large part of the loss was due to the strike and the conditions growing out of it. With an active competitor present, or potentially present, in the form of the jitney and the automobile bus, it is an extremely hazardous thing for a street railway company to

enter upon a prolonged contest with its employes, as such a policy is pretty sure to result in the diversion of traffic to competitive means of transportation and to make the future of the electric railway in the particular community even more insecure than normal conditions at the present time warrant. Under the circumstances, street railway strikes are nowadays attended with comparatively little violence, and, therefore, public opinion is not so sharply divided between those who consider the maintenance of law and order as the most essential public policy and those who naturally sympathize with labor, particularly where it is believed that the men are underpaid or are compelled to work under unreasonable conditions. As a result, it seems to be clearly true that it is increasingly difficult for electric railway companies to "break" strikes.

Even after the cessation of hostilities in the World War the cost of living continued to climb, and unless in the near future there is a sharp recession in prices it is to be expected that the employes of the electric railways, as their yearly contracts expire, will demand further increases in wages and that this will drive the companies which are not already in bankruptcy closer to the verge of it if the men's demands are granted. This result may follow even where fare increases are freely granted to meet the additional cost of operation, for it is by no means certain that during the present era of high prices the electric railway industry as a whole can be made to pay the full cost of service that is involved in higher wages, along with the high prices now paid for materials and money. At least, this result may follow unless there is a radical reorganization of capital obligations of the industry.

Obviously, the electric railway problem is not merely a problem of credit or of the new capital secured by credit. It is also, and even more fundamentally, a problem of labor, because the solution of the labor problem is itself essential to the restoration of credit. Capital that is already invested in the electric railways will have to stay in the industry whether or not it likes the labor outlook, but new capital need not come in so long as the labor problem remains unsolved and threatens the security of the investment, and, within certain limits, the permanency of the industry. Full cooperation of labor is, of course, essential to the highest prosperity and usefulness of any industry. The labor element is peculiarly important in the street railway business, where the employes who produce the service come directly in contact with the people who consume the service. From the point of view of the labor problem, therefore, the present condition of the electric railway industry contains seeds of trouble not only for the people financially interested in the industry but also for the general public. For the car riders there is the double danger of the increasing cost of service on the one hand, which in the long run either they or the taxpayers will be compelled to pay, and of the paralysis of service through industrial conflicts on the other hand, which in general may be regarded as an even greater calamity than increased cost.

From the point of view of the electric railway companies the labor problem is fraught with immense danger. If wages keep on going up, even though the increases can be shown to be fully justified by the living needs of the employes, the companies will be financially ruined unless they are able to effect radical

economies in the use of labor or radical increases in the revenues derived from the products of labor. From the point of view of the public, if wage increases are sufficient to make it impossible for the companies to observe their public contracts and live, the result may easily be that the character of the electric railways as a public utility will be entirely changed, and that rate limitation or regulation by public authority will become obsolete. If, as a result of the increasing demands of labor, it becomes necessary to adopt a service-at-cost plan without any maximum fare, or to inaugurate a system of unrestricted state regulation based upon the service-at-cost idea and the rule that the investors are entitled to receive a fair return upon their capital devoted to public use, the public is likely to find itself in a position where it will have lost the protection of the rule that public utility rates shall not be more than the reasonable value of the service to those who desire to use it, and if that rule is once abrogated with respect to local transportation service, the electric railways will cease to be a public utility in the accepted sense of that term. Furthermore, if the cost of the labor element in electric railway operation should increase to such a point as to make the operation of electric railways economically impossible in competition with other available means of transportation, the public would lose the great advantages which it has heretofore enjoyed from the electric railway as an instrument of public service.

Thus far I have been discussing the labor problem from the point of view of the investors who have contributed or are to contribute capital to this industry, and from the point of view of the car riders or the taxpayers who must pay, in one way or another, the full cost of the service, if the service is to be continued. Under these circumstances neither the investors nor the general public can afford to pursue the policy of overlooking the labor problem or neglecting to come to full understanding of the labor point of view. It is to be feared that in the past too many street railway managers and too many car riders have had no thoughts about labor except from the standpoint of cost and opportunities for profit. The managers have been annoyed by it, but have looked upon the men as so many live rails, live motors and live wires, that cause trouble if not handled circumspectly.

CHAPTER XLIV

LABOR'S PUBLIC RELATIONS RECOGNIZED

It cannot be denied that, as a sheer element in the cost of electric railway service, labor has become a problem of the first magnitude. It is certain, however, that this problem could be more readily solved if the true relations of labor to the industry had been properly understood and recognized in the past. It is also certain that the labor problem from the standpoint of cost cannot now or in the future be solved without such an understanding and recognition. Labor defiant, labor disloyal, labor discontented, labor indifferent, or even labor lazy will, under existing conditions, inevitably break the back of the electric railways.

The first great failure in connection with the street railway labor problem has arisen from the fact that until very recently labor has been regarded merely as an incidental element of cost for which the public assumed little or no responsibility. Franchises have been granted everywhere to promoters or capitalists whose services were either sought or accepted by the public in the development or continuation of the much needed local transportation service. The mayors and the common councils, the state legislatures and the public service commissions have dealt not with the great groups of men who were personally to produce and distribute transportation service, but with the capitalists who were to put up the money or with their representatives who were to assume responsibility for the construction and operation of street railway lines. From the point of view of the street railway franchise, from the point of view of the laws providing for the incorporation of electric railway companies, and even from the point of view of public service commission laws and orders, the labor problem has been almost universally ignored. This is generally true even in the most elaborate and up-to-date contracts entered into upon the occasion of the resettlement of the public relations of the street railways, such as the Chicago settlement ordinances of 1907, the New York subway contracts of 1913, the Kansas City settlement ordinance of 1914, the Talyer grant inaugurating service at cost in Cleveland in 1910, the new Montreal Tramways contract of 1918, the Massachusetts service-at-cost legislation of 1918, and the Cincinnati resettlement contract of that year. In very rare instances some provision, more or less inadequate, has been made in a street railway franchise reserving to the city the right to intervene in labor disputes, or to insist upon the submission of all such disputes to arbitration. The Des Moines street railway franchise, granted in 1915, is one of these few exceptions that prove the rule. That franchise contains the following provision :

"Whenever * * * * any difference or differences shall arise between the company and its employes or any division of its employes, who shall be engaged in any line of labor, about the rights or obligations existing between them, and the difference or differences are in regard

to a matter or matters which might be lawfully arbitrated, and not herein excluded from arbitration, or some other method provided herein or by law or by contract between the company and its employes for arbitration, then the company or its employes or any division or organization of its employes of the city may require such question or questions or matter or matters to be submitted to arbitration. Each of the parties to said controversy shall appoint one arbitrator within five days after written notice so to do has been given by one party to said controversy to the other party, which notice shall specify in writing the question or matter to be submitted to and to be decided by said arbitrators."

The two arbitrators so appointed are required to proceed at once to decide the questions submitted to them, and if they cannot agree within a specified time the parties to the controversy are to appoint a third arbitrator, or upon their failure to do so the two arbitrators themselves are to select a third arbitrator, and the board of three thus constituted must proceed to decide by majority vote the questions submitted for their determination. In case either party to the controversy neglects to appoint an arbitrator, or in case they or the two arbitrators first selected are unable to agree upon a third arbitrator, the appointment is to be made by the individuals composing the Supreme Court of the State of Iowa or a majority of them. The procedure of arbitration is further described in section 15 of the ordinance, as follows:

"It is further provided that the said Board of Arbitrators may adopt such rules, regulations and methods of procedure governing the hearings before the board as it may deem proper. It shall give reasonable notice to each of the parties to said controversy of the time and place of hearings upon the questions and matters submitted to it, and such parties shall have the right to appear by counsel before the board and to offer proofs and testimony on behalf of their claims, and each of the parties shall furnish said board such information as may be in its possession and as is desired by said board; provided, further, that the board may limit the extent and time of hearings, and if said board shall, in its opinion, not have sufficient time within which fully to hear and determine the questions and matters which are for it to determine within the limitations and times as herein fixed, then it may extend the time within which it is to reach an agreement, but not to exceed thirty days beyond the times herein stipulated. All arbitrators shall be persons competent to act on the questions, matters and things which are submitted to them.

"All expenses of every kind incurred by any board of arbitration appointed hereunder, including a per diem charge of not to exceed \$25 for each of the arbitrators, shall be fixed by the Board of Arbitration as a part of their award, and shall be paid as directed by said board, except that in the arbitration of labor disputes each party shall pay the expense of their own arbitrator and the third arbitrator shall be paid jointly by both parties; and the amount, if any, of such expense which the company is required to pay shall be charged to operating expenses.

* * * * *

"The company by the acceptance of this ordinance agrees to continue to contract with its employes and to insert in all contracts made with its employes, or any organization or division of such employes, a clause binding all the contracting parties to an observance of and compliance with all of the provisions of this ordinance, and especially with the provisions of sections fifteen and sixteen relating to arbitration."

The award of the board of arbitration, made in writing and served upon the company and the employes, is to be binding upon both parties, but it is provided that the board in fixing the time within which its findings are to be made effective "shall in no case change or modify any of the terms of the contract existing between the company and its employes."

I cite these provisions of the Des Moines franchise because they recognize the existence of a public interest in the relations between an electric railway company and its employes. It will be remembered that in the list of strikes during the year 1919, given in the preceding chapter of this Analysis, is one for Des Moines which lasted eight days and entailed a loss of approximately \$18,000 in gross revenues. The Des Moines franchise is not a service-at-cost contract,

although in many respects it was written along distinctly modern lines. It has not proven to be an unfailing talisman for the solution of the local street railway problems of the city. This may be due, in part, to the city's failure to insist upon a rock-bottom valuation at the time the settlement was made. At any rate, Des Moines is one of the cities to which the Secretaries of Commerce and Labor referred in their letter to the President under date of May 15, 1919. The property is in the hands of receivers. That the arbitration provision of the franchise did not prevent a strike of the trainmen in August, 1919, is due, apparently, to the alleged inability and refusal of the receivers to pay the increase awarded to the men. The story is told by Mr. Emil G. Schmidt, formerly president and now one of the receivers for the company, in a letter to the Executive Secretary of the Commission, dated December 12, 1919. Mr. Schmidt says:

"On July 28, 1919, a board of arbitration awarded the trainmen a wage increase of 13c an hour, effective March 1, 1919. The receivers, however, were entirely out of funds with which to meet this demand, and after a strike lasting from August 12 to August 20, the Federal Court ordered the receivers to pay one-third of the back pay out of funds then set aside for interest and taxes. On October 9th, however, Judge Wade set aside the arbitration award of July 28th on account of the provisions of such award not having been met either by the finding of sufficient evidence on August 4th that the receivers were deriving sufficient funds to meet the increased wages, or the adoption of an ordinance by the vote of the people which would provide for an increased revenue sufficient to meet the increase in wages over and above existing cost of operation and fixed charges. This election was held on September 22nd, but the franchise amendment was defeated. The setting aside of the arbitration award above referred to therefore put into operation the old scale of wages in effect prior to March 1, 1919.

"A new board of arbitration was then appointed, and the trainmen were awarded an increase of 10c per hour, retroactive to March 1, 1919, or practically 3c an hour less than the award of July 28th."

The threatened strike on the steam railroads of the country in the summer of 1916, averted by the passage of the Adamson law, and the actual strikes during that same period on both the rapid transit and the surface car lines of old New York, brought prominently to public attention the vital character of the public interest in labor disputes on transportation lines and the serious nature of the mistake made in permitting the companies and the men to fight out their differences without regard to the paramount interest of the public in the continuity of service. Legislative measures were proposed in New York designed to enforce the public interest and to compel the would-be belligerents in the public utility field to settle their disputes without a suspension of service. But America's entrance into the war came on, and no agreement having been reached on this proposed legislation, the matter was dropped and the solution of the problem was left to the patriotism of the parties and to the good offices of the Federal Government with its "big stick" of war necessity.

The National War Labor Board succeeded in preventing or quickly stopping street railway strikes, but it did so largely by giving its approval to the demands of labor without having authority to make any corresponding adjustment between the companies and the public. The triangular position of the parties was recognized, but there was still a failure in the coordination and free adjustment of their respective interests. With the War Labor Board gone and nothing to take its place, we are again in a condition where the public has no authentic and direct relations with labor. The responsibility of labor to the

public is getting to be pretty clearly recognized by the public, and the public's responsibility to labor is intermittently recognized by labor. Unfortunately, as yet there is comparatively little mutual recognition of responsibility. The definition of this mutual responsibility and its clear recognition by both parties may almost be said to be the labor problem in the electric railway field. One thing may be put down as beyond the realm of controversy, and that is this, namely, that neither the public nor labor can longer afford to put up with mere indirect mutual relationships via the companies. Of course, much can be said for the possibilities of improvement in the relations between the public and the companies and between the companies and labor, but the real problem of electric railway service and the payment for it cannot be solved without the establishment of direct relations upon a sound basis between the public and labor. Whether this can be accomplished short of public operation remains to be seen. At the very least, it means the assumption by the public of ultimate responsibility for operating policies in one of the largest and most important fields of management.

CHAPTER XLV

LIMITATION OF "THE RIGHT TO STRIKE"

From the public point of view it is getting to be as intolerable that labor should enjoy the privilege of suspending a public utility service whenever the employes think that they are not being properly compensated or are not being permitted to work under proper conditions as it would be for capital to go on strike for more pay or greater security in case of a fundamental disagreement with the public. It is universally admitted that labor cannot be drafted into public service except as a war measure and that no man or group of men can be prevented from leaving the public service upon proper notice if they weary of it or believe that they can better their condition elsewhere. Likewise, it is admitted that capital cannot be commandeered in times of peace for use in the expansion of local transportation facilities, and that individual investors cannot be prevented from withdrawing from the street railway field if they can find substitutes to take their place. It is clear that in this respect labor has the advantage of capital. Labor can withdraw without providing a substitute, while capital in most cases cannot do so, as it is restrained both by the inherent difficulty of transforming its function without great loss and also by its obligation not to leave the public in the lurch.

The electric railways can render no transportation service, either good or bad, unless the cars run. Continuity of operation is of the essence of the service. The public cannot afford under any conditions to have an essential public service cease, whether it be from the breakdown of the investment, from the unwillingness of the men to perform the service under the conditions prescribed, or from the determination of men who have been engaged in performing the service that nobody else shall do it when they quit. Obviously, capital must be paid the wage that is necessary to attract a supply of capital. Here old capital is more or less at the mercy of the public, except as it is protected by contract or the community's sense of equity. Obviously, also, labor must be paid the wage that will retain the present employes or attract new ones in sufficient numbers and with sufficient qualifications to produce and distribute the necessary service.

These things cannot be disputed by the public. But the public claims the right to get capital in the cheapest market. Yet even this claim is not always enforced. Under some franchises and under many regulatory orders an arbitrary rate of return far in excess of the necessary cost of capital has been allowed. For example, if eight per cent or even ten per cent is fixed as a fair return either on the entire investment or upon that portion of it represented by stock, the existing stockholders often retain to themselves the privilege of sub-

scribing for additional stock at par, even though on the open market the shares would command a big premium. Yet, fundamentally, the public does not admit that it is bound to pay more than the necessary cost of capital, and all that is now theoretically claimed on behalf of the electric railway companies is a rate of return high enough to attract new capital in the freedom of the money market. The companies do not frankly claim, and the public certainly does not admit, that the investors who are in shall be permitted to erect an artificial barrier against new investors and claim more for themselves than they could if the barrier was down. It is true that in the Cleveland seven-per-cent-return arbitration proceeding the company claimed for the existing investors the going rate of wages for money, notwithstanding the contract under which they invested the money at a given rate of return, but the city's consent that this demand should be arbitrated was obtained under duress and was not an admission of the propriety of the claim. Now, when it comes to labor the question arises: Shall men be treated differently from money? Shall the employes of a street railway company be paid the going rate of wages, subject to the obligations of term contracts, or shall they have the right through organization and the strike to demand and secure higher wages than the services they render would command in the open "labor market"? Here we come up against the distinction often made between capital and labor based upon the conception that labor is not a commodity but a service, a human relation, and that the general welfare of the community demands that labor shall be freed from the inexorable law of supply and demand which controls the labor market, so-called. On this theory, the employes engaged in a public service such as local transportation have the right to determine for themselves what compensation they shall receive and under what conditions they shall work, and have the further right, if their terms are not conceded by the management, to cease to work—not only that, but to compel the suspension of the service. A strike is not the wholesale resignation of the employes, but the wholesale quitting of work without quitting the job or giving place to others who might be willing to do the work under the prescribed conditions. The "right to strike," as it is commonly understood in the electric railway business, is the right of the men to take a vacation without pay and the right of all of them to take it at one time and practically without notice; it is the right by concerted action to interrupt the service and keep it interrupted until the management comes to terms with the strikers.

If it be once admitted that transportation is an essential public service, the so-called "right to strike" as I have defined it is preposterous in a civilized community. It is the right to declare and wage private warfare while public interests are paralyzed. The public cannot possibly admit the right of any body of employes to stop the public wagon—essential public service must go on. From the standpoint of the public, the case against the "right to strike" in the electric railway business is absolutely clear. The public admits that the employes are under obligation to it. But here comes in the human factor. The men maintain that their first privilege and their first duty is self-preservation and that their obligations to the public are of a secondary nature. The public, in the broad sense of the term, by which is meant something more than the car riders

as a class—in fact, the all-inclusive community of which the investors and the operatives are a part, as well as everybody else—has a vital interest not only in continuity of transportation service, but also in the welfare of the men who render the service. This public cannot tolerate the “right to strike” in such a service, but neither can it afford to take away from a large group of citizens the ultimate means of self-help, unless it is both willing and diligent to set up the machinery of arbitration by which the informed and responsible judgment of society can be substituted for the *ex parte* judgment of the employes themselves in fixing wages, hours and conditions of work. The “right to strike” against the decisions of such a tribunal cannot be recognized. Individual employes, aggrieved at its decisions, would have two recourses: they could resign upon proper notice in order to improve their condition, or they could resort to the court of public opinion and the ballot-box in an effort to get the judgment overruled; but the right by concerted effort to interrupt the service until the informed judgment of society would consent to be overruled by their interested judgment cannot for a moment be admitted in a coherent, organized democracy.

Labor is pretty consistently and rather violently opposed to the limitation of the “right to strike,” even in essential public industries such as transportation. This unwillingness, it seems to me, is proof of the fact that our democracy is not yet fully coherent and organized. Labor feels that it is something apart from the government; it does not feel its own solidarity with the rest of the community in its political manifestations. The government, like the companies, is regarded as something set off against the men, something not theirs, but their enemy’s. The labor problem cannot be solved until government wins the support of labor; until labor ceases to be an unassimilated, undigested lump in the political stomach of the community. And so, while the community cannot for a moment admit the “right to strike” in public service employments, it cannot solve the problem merely by prohibiting strikes. It must first recognize its own responsibility to labor and set up the tribunals through which the legitimate interests of labor will be conserved, but with the fullest protection that can be guaranteed that labor engaged in public service will share with capital the disadvantages as well as the advantages that arise out of their voluntary devotion to work in which the public interest is predominant and with respect to which the ultimate public rights cannot safely be abrogated.

It is unfortunate that the Proceedings contain so little bearing directly upon this proposed solution of the labor problem. Indeed, we ought, perhaps, to call it merely a solution of one important aspect of the labor problem, namely, continuity of service, with respect to which the public interest and the immediate interests of men and money combine. In time of strike the public gets no service, the men get no wages, and capital makes no profit.

Mr. Thomas L. Sidlo, of Cleveland, fresh from the experiences of the Cleveland Railway Company and the City of Cleveland with the electric railway problem, recommends compulsory arbitration, as will be seen from the following extract taken from pages 1588 and 1589 of the Proceedings:

“This is the most vexing and obstreperous problem confronting the street railway industry. From present indications it is likely to be still more troublesome in the future. No

adequate solution has yet been found. In recent times street railway employes have found the strike an unfailing weapon to enforce their demands. At present it seems as if there were no definite limit to its possibilities. Some system of bonuses or some plan of 'profit-sharing' must be devised to bring the employes into the partnership relation and to force them thus to accept the responsibility their type of employment owes to the public. The need for some such solution is irresistible, unless the present situation with regard to wages changes in a very marked way. In recent years street railway labor, although not of a high order of skill, has not been in competition with the rest of the labor market. Wages have been determined by the coercive strength of the 'local.' The suggestion that seems most hopeful at this time contemplates a system of liberal annual percentage bonuses, based on a schedule of seniority and continuity of service, and with no other 'strings' to the plan.

"An aspect of the problem that is not at all clear relates to the question of the extent to which public officials should take a hand in labor disputes. From one standpoint a 'hands-off' policy seems highly desirable. This has the elementary advantage of leaving the decision of the dispute to its merits. On the other hand, allowing the interested parties to fight it out to the bitter end usually means public suffering, an emerging of the mob spirit, violence, etc. For that reason it is necessary for the public interest to be represented. The best way to achieve this recognition of the public interest is through compulsory arbitration of all labor difficulties. This method will settle disputes without general punishment, will protect the rights of the employes, and will not seriously interfere with the employment relation or break down discipline. Its introduction in this country has already been delayed too long."

The special street railway commission of Massachusetts, which filed its report in November, 1919, recommended legislation to prevent strikes on local transportation lines. With respect to the labor problem the report says:

"Most of this report, and all those of like tenor that have preceded it, have been primarily concerned with the relation of capital to the street railway service of the Commonwealth. There is, however, another indispensable element, and that is labor. This community and others have within a short time been paralyzed in their commercial and social activities by strikes upon street railway systems. Moreover, all of our communities are living under the shadow of threatened strikes. This Commission would fail in its duty if it did not suggest some method by which continuity of street railway service may be assured.

"The distinction between the carrying on of public utilities and of a private enterprise is familiar. In the former, the public interest is paramount. The public utility may be carried on by the state or by individuals; it may receive grants from the state; may exercise the power of eminent domain. On the other hand, the rates it may charge are regulated, the quality and sufficiency of its service supervised, its financing controlled.

"Once an occupation is one of public necessity the service is charged with a peculiar obligation, a trust of which one should not divest himself at will. Life itself is involved in the continuous operation of our public utilities—the furnishing of water, of light and heat, as well as of transportation. No one need enter this service unless he chooses, and once engaged in it should not be permitted to quit in such a manner as to paralyze it. A strike upon a street railway brings the greatest suffering to those who can least endure it; the well to do may be inconvenienced, but they are not seriously injured. It is the great army of wage workers—men and women—who are hard hit. They depend upon this transportation to get to and from their work. When it ceases they suffer, and the mere fact that it may cease causes apprehension.

"A strike of a single day upon the elevated causes a loss directly and indirectly of several hundred thousand dollars.

"We recommend a method for preventing strikes on street railways under public control by making it unlawful for persons in that service, by concerted action to fail to perform from day to day their respective duties.

"Provision should be made for an agreement between employer and employe to submit questions relating to wages and working conditions to arbitration by a board to be selected as shall be provided in the agreement, failing in the creation of which the Public Service Commission shall act.

"Any person violating the provisions of the act would, *ipso facto*, be discharged from his position and become ineligible to reemployment in such service for a period not exceeding one year."

The commission submitted with its report the draft of a bill "to secure continuity of service on street railways under public control." The provisions of this bill were as follows:

"Section 1. It shall be unlawful for any officers, employes, agents or other persons in the service of any street railway in the Commonwealth, publicly managed or controlled,

by concerted action, combination or agreement, to hinder, obstruct or prevent the continuity of service of such street railway, or to threaten such hindrance, obstruction or prevention.

"Section 2. The duly constituted operating officers of any street railway system, and every person or association of persons in its service, shall, by written instrument or instruments, agree to submit to arbitration by a board or boards, whose decision shall be final, to be selected as therein provided, every difference or dispute relating to wages or compensation, hours of labor or working conditions, and any disputes or differences that may arise in the course of the operation or management of such system, and to abide by the findings, determination or award of such board. Copies of all such written instruments shall be filed with the Public Service Commission.

"Section 3. The board shall hear the parties or their representatives and determine all matters in dispute, and such determination shall be in force for such period of time as the board may fix. To the extent that the matters in issue are controlled by statute or may require legislation the board may make recommendation to the general court, with drafts of such proposed legislation as may be necessary to carry the findings or recommendations into effect.

"Section 4. In case of the failure of the parties to complete the selection of an arbitration board in accordance with said agreement or to make provision therefor, within sixty days of a request by either party, or by the Governor, for the selection of such a board, the Public Service Commission shall serve as such a board, and shall exercise all the powers set forth in the preceding section.

"Section 5. Any person violating the provisions of section one shall thereupon be discharged from the service, and his continuance in such service, or his reemployment or reappointment in any capacity therein for a period not exceeding one year, as the Public Service Commission may determine, shall be unlawful."

It will be observed that this proposed measure purports to relate only to street railways "publicly managed or controlled," although the provisions of section 2 seem to be broad enough to apply to all street railways within the state.

One of the members of the commission, Mr. Roland W. Boyden, in a supplemental statement, expressed the opinion that "the measure proposed for preventing strikes should not be limited to publicly controlled street railways," and added: "Also, I should prefer to omit the penalty, placing reliance upon the agreement, backed by the men's sense of public obligation and the force of public sentiment."

When this measure came before a special session of the legislature, late in 1919, the employes, through their counsel, Mr. James H. Vahey, strenuously opposed its enactment into law. Mr. Vahey maintained that the policy of compulsory arbitration as embodied in this bill was in violation of the fundamental guaranties of the United States Constitution. In the first place, he urged that the bill would violate the provisions of the Fourteenth Amendment providing for liberty of contract. Upon this point he cited the decisions of the United States Supreme Court in *Adair v. United States* (208 U. S. 161) and *Coppage v. Kansas* (236 U. S. 1). In particular he cited the following words quoted by Mr. Justice Pitney in the *Coppage* case from the opinion of the Kansas Supreme Court:

"Any act of the legislature that would undertake to impose on an employer the obligation of keeping in his service one whom, for any reason, he should not desire, would be a denial of his constitutional right to make and terminate contracts and to acquire and hold property. Equally so would be an act the provisions of which should be intended to require one to remain in the service of one whom he should not desire to serve. * * * *"

Applying this language to the proposed Massachusetts act, Mr. Vahey said:

"An extraordinary situation would be presented in this Commonwealth if the proposed legislation were adopted. The employes of two street railway corporations would be coerced against their will to continue in service. The fact that a violation of Section 1 would not necessarily disentitle striking employes from seeking employment elsewhere is no answer

to the constitutional objections I have been discussing. It needs no argument to convince you that they would be blacklisted wherever they went, and would have great difficulty in obtaining employment."

Mr. Vahey also contended that the provisions of the proposed legislation were repugnant to the "equal protection" clause of the Fourteenth Amendment. He took this view upon the ground that the act was discriminatory insofar as it purported to apply to the employes of two street railways only, namely, the Boston Elevated Railway and the Eastern Massachusetts Street Railway, both of which were under "public control," as that term is now used in Massachusetts.

He also contended that the proposed legislation would create involuntary servitude and therefore fall foul of the Thirteenth Amendment. In this connection he said:

"The right to strike is the only final defense of the worker against oppression. It is the only weapon readily available, the use of which he thoroughly understands. The right is often more powerful than its exercise would be. Knowledge of the power of the workers to act effectively, if a substantial measure of justice is not done them, is often the only influence felt by a mean employer. In competitive industry the mean employer drags down the standards for the whole trade. If such an employer knew that there was no effective power back of a demand, or if he knew that that power must be held in abeyance for a definite period, he would take every advantage afforded by that knowledge."

Here Mr. Vahey fails to distinguish between a private employer in a competitive industry and a public employer in the electric railway field. For a legislative body to admit the force of this particular argument would be to admit that the public, whom the legislature represents, might prove to be a "mean employer." The fact that labor often looks upon society as now organized as antagonistic to its interests and as essentially identical with organized capital perhaps receives some support from language which Mr. Vahey quoted from a dissenting opinion of Mr. Justice Oliver Wendell Holmes, rendered when he was a member of the supreme judicial court of Massachusetts. The reference is to the case of *Vegeahn v. Guntner*, reported in 167 Massachusetts, where, at page 107, Justice Holmes used the following language:

"One of the eternal conflicts out of which life is made up is that between the effort of every man to get the most he can for his services, and that of society, disguised under the name of capital, to get his services for the least possible return. Combination on the one side is patent and powerful. Combination on the other is the necessary and desirable counterpart, if the battle is to be carried on in a fair and equal way."

Continuing his argument that the proposed legislation would mean involuntary servitude for the electric railway employes affected by it, Mr. Vahey said:

"You will observe that in Section 1 of the proposed legislation no reference is made to the term *strike*, the prohibition being confined to any concerted action, combination or agreement which hinders, obstructs or prevents the continuity of service of a street railway publicly managed. Reduced to its final analysis, that section really means something more than a strike, which may often presuppose a resumption of employment. For example, suppose that the employes of the Boston Elevated Railway Company become dissatisfied with their conditions of employment and are unable to get them changed by the company, and assume that the Public Service Commission, about which I shall later on have something to say, acts as an arbitration board and lays down principles and policies which these street railway employes think are unjust, and that they also feel that it should be futile in any other arbitration before the Public Service Commission to have those policies and principles modified, what then? According to Section 1, if they leave their employment with no intention of going back into the service of the Boston Elevated Railway Company, they are doing something which is prohibited by law and the result of which might make it impossible for them to secure employment elsewhere for reasons heretofore stated. In other words, any concerted action, combination or agreement which tends to hinder, obstruct or prevent the

continuity of service of a street railway publicly managed is declared unlawful under any circumstances. If this is not involuntary servitude, I confess I do not understand that expression."

On the ground that one of the companies affected by the proposed legislation, namely, the Eastern Massachusetts Street Railway Company, was not confined to the State of Massachusetts in its operation, Mr. Vahey also maintained that the proposed act would be an interference with interstate commerce and in that respect violative of the Federal Constitution.

Turning from the constitutional objections, Mr. Vahey discussed the economic, social and political objections which labor makes to any restriction of its right to strike. Upon this point he said:

"The right to strike * * * * is inherent in every working man in this country. The right to quit work for any reason sufficient to the workman himself is the concrete expression of individual liberty. Any curtailment of this right by proposed legislation of this nature is a negation of liberty and a return to serfdom, and hence non-American. It is wrong in principle because it destroys individual liberty. It is at variance with the spirit of our Constitution, as I have shown you, to compel men's actions contrary to their own will. I submit it is shocking to one's notions of real Americanism to say to a workman, 'You must arbitrate and accept whatever decision is rendered; if you do not, you will be penalized.'"

Mr. Vahey raised specific objection to the ultimate contingent jurisdiction of the Public Service Commission as a board of arbitration under the proposed act, as will be seen from the following:

"It is provided that the Public Service Commission, in case the parties cannot agree, shall act as an arbitration board. Suppose that the Public Service Commission proved hostile to organized labor. Suppose that it laid down uneconomic principles of arbitration law. For example, labor has consistently maintained in arbitration matters that it was entitled to a living wage, that the financial condition of the company was immaterial, and that the supply and demand doctrine has no place in industrial arbitration proceedings. These contentions are based upon sound economic reasoning and are strongly supported by precedents of the highest source throughout the world, but the Public Service Commission would not be obliged to follow them and could, if it saw fit, ignore them completely. It is reasonable to suppose that just the moment the Public Service Commission took a stand favorable to the Boston Elevated Railway Company and the Eastern Massachusetts Street Railway Company those corporations would fail to agree upon any arbitration board suggested by the employes, which would automatically cause the Public Service Commission to act as an arbitration board. How is it possible by the most fanciful reasoning to satisfy the human mind that such a situation could be expected to be viewed with complacency by employes? It would be monstrously unjust.

"I submit that the proponents of compulsory arbitration in this matter cannot show that the workingman is protected by the machinery provided by this act for the determination of standards and the settlement of disputes. The plain answer of the employes is that they have no assurance that their contentions will receive the consideration due them from the board of arbitration, sitting as a court under a compulsory law. They do not know what preconceived notions of justice may be brought to bear on the situation or what influences, political or financial, may be invoked to sway its judgment. If compulsory arbitration fails to secure important conditions, they have no remedy at hand. They will be penalized if they disobey the awards. There is no right to appeal. A strike, at least, is their own affair. If it fails, they can make plans for preventing its failure another time."

On the general subject of arbitration Mr. Vahey cited the authority of an article by Professor Frank T. Carlton found in the "Annals" of the American Academy of Political and Social Science for January, 1917, of which the following is a part:

"Since labor is struggling upward toward a higher standard of living and toward higher social standards, labor organizations look with suspicion upon any institution or method of procedure in which precedent plays a considerable role. Precedent for wage workers spells slavery, serfdom or low standards of living and social inferiority. Laboring men and women are struggling to get out of the 'servant' class. They want to be recognized as 'equals' of their employers and the managers of the business in which they are earning a

living. Wage workers are eagerly looking forward to the day when labor as well as capital shall have a voice in determining the conditions in industry, to the time when the representatives of the employes shall be admitted to the meetings of the boards of directors. Compulsory arbitration would seem to offer little opportunity to press forward along this line.

"Again, in case no definite legal principles can be invoked, the decisions of the board depend in no small measure upon the training, interests and idiosyncrasies of the judge or umpire. It has been noted that no fundamental principles which are of general acceptance can be laid down for the guidance of boards of arbitration. Consequently, there is reason for the assertion made by labor leaders that the decisions of boards of arbitration depend upon the personal biases and the preconceived notions of the arbitrators. In the event of the adoption of compulsory arbitration in this country, the choice of arbitrators, or of those officials whose duty it would be to make such selection, would inevitably become a political issue. And further, political considerations would become determining factors in the rigid or the flabby enforcement of the law."

The policy of enacting special legislation to restrict the rights of the employes in a single industry would, in Mr. Vahey's opinion, cause profound discontent. Upon this point he said:

"Such legislation obviously will weaken labor unions of public service employes, if not destroy their usefulness. It will widen the gulf between capital and labor. Voluntary arbitration, where capital and labor meet as friends, will be completely ended. Trade agreements will be less useful.

"It is not perfectly apparent that it is unjust to compel a small portion of the workingmen of this Commonwealth to arbitrate and at the same time allow the great majority of employes to strike whenever they choose? How is it possible to prevent profound discontent under such circumstances? Is it not ridiculous to say that machinists who work for a street railway cannot strike and must arbitrate, while machinists who work for a big manufacturing concern can do as they like? This proposed legislation is advocated upon the ground that the public is interested in it. That is undoubtedly true, but that does not justify the legislature in taking away fundamental rights from one class of men and permitting the rest of the community to continue in the enjoyment of them. In this country we are justly jealous of individual rights and liberties, and we resent governmental interference with what we regard as our private affairs. To the average American the idea of compulsory arbitration, which, under this proposed legislation, means involuntary servitude, is decidedly repugnant to his concept of liberty. But in this legislation you would create, by discriminating between the employes of public service companies and those of other industries, not only the ordinary resentment which is natural where men no longer can quit work when they choose, but you would plunge into the greatest conceivable discontent a class of workingmen who daily see their friends and neighbors enjoying fundamental rights which they, themselves, no longer possess."

In Mr. Vahey's language just quoted we see that labor shares with capital the reluctance to admit that upon devoting itself to a public service it thereby divests itself of certain rights which it would otherwise enjoy. Labor in the electric railway industry, like capital, objects to being regulated and declines to accept in good faith the full consequences of employment in a public service.

Mr. Vahey's final objection to the compulsory arbitration feature of the proposed act was that compulsory arbitration is against public policy because it would tend to prevent the proper spirit of cooperation between employes and employers. This will appear from the following:

"In addition to the foregoing reasons I submit that this proposed legislation is against public policy, because it would expose the public to danger from the unwilling performance of a service requiring devoted attention. It is impracticable to enforce the relation of master and servant against the will of either. The duties of street railway employes involve the greatest attention, judgment and skill. The effect of compulsory arbitration with respect to the enforcement of awards would be to compel employes to remain in service against their will. The operation of this rule might do irreparable injury to the public, because it is impossible to exact a high degree of efficiency from men who are compelled to work against their will and under awards that seem to them unfair and unjust."

Mr. Vahey maintained that compulsory arbitration has been a failure in New Zealand and New South Wales, and that even the Canadian "Compulsory

Investigation Act" has not prevented strikes. Upon this subject he quoted from Bulletin No. 233 issued by the United States Bureau of Labor, in which Mr. Benjamin M. Squires gives the result of an exhaustive investigation of the operation of this Canadian law. The following extracts from Mr. Squires' report have a direct bearing upon the principles underlying the proposed Massachusetts act:

"Labor's attitude toward any limitation of the right to strike is well known. Strikes are opportunistic and are looked upon as born of necessity. If the right to strike or to strike at an opportune time is taken away, then labor must be assured that its just demands will be met in some other way. Labor is not ready, however, to leave wages and working conditions entirely in the hands of government boards of arbitration.

* * * * *

"A restriction upon the right to strike or lockout pending an investigation by a government board as provided in the Canadian act is generally favored by employers because it enables them to continue operation and to prepare for the possible contingency of a strike and does not force them to accept the findings of such a board. If the form of such legislation is changed to a compulsory acceptance of findings, employers are as apt as employes to take exception to adverse decisions. Employers are seldom violators of the Canadian act in the sense of declaring an illegal lockout. For that matter, a lockout at any time is exceedingly rare. But it should be borne in mind that the distinction between a strike and a lockout is not clear cut. By a refusal to meet demands or to accept the findings of a legally constituted government board, the employer may impose conditions which, though resulting in a strike, nevertheless constitute a lockout as effectually as though the doors of his establishment were closed against his employes.

"In any anti-strike or lockout legislation it is necessary with both employers and employes to meet the objection to what is regarded as a curtailment of rights and privileges. Employers have the advantage in that they have been subject to a greater amount of governmental regulation than have workers. But if either employers or employes are to be brought to the point of voluntarily accepting arbitration as a substitute for direct action, there must be some assurance that the underlying principle of arbitration is not merely a restatement of the law of supply and demand which in the final analysis concedes the demands of the stronger party."

In connection with this reference to the Canadian "Compulsory Investigation Act" it should perhaps be noted that in the 1919 epidemic of street railway strikes, to which I have already referred, Canada was not entirely exempt. Beginning June 22 of that year a strike occurred on the Toronto Railway Company's lines, which lasted for twelve days and entailed a loss of approximately \$228,000 in gross revenues.

The objections of Mr. Vahey and his associates to the proposed legislation in Massachusetts proved effective at the special session of the legislature to which the street railway commission's report was submitted. It is evident, however, that we have reached a critical stage in the development of the relations between the public and labor in the electric railway industry, and that it will be more and more clearly recognized as time goes on that the public's right to continuity of service creates a distinction between the rights of labor in this industry and the rights of labor in an ordinary private industry where absolute continuity of operation is not so essential to the public welfare. That this distinction exists as a matter of law was clearly set forth by the United States Supreme Court in *Wilson v. New*, 243 U. S. 332, in which the Adamson law was upheld. It will be remembered that in 1916, in the face of a threatened tie-up of the railroads of the country, and in response to an appeal from the President, Congress undertook to establish an eight-hour day for the employes of carriers engaged in interstate and foreign commerce. This act provided that

after January 1, 1917, "eight hours shall, in contracts for labor and service, be deemed a day's work and the measure or standard of a day's work for the purpose of reckoning the compensation for services of all employes who are now or may hereafter be employed by any common carrier by railroad, * * * * and who are now or may hereafter be actually engaged in any capacity in the operation of trains used for the transportation of persons or property on railroads, except railroads independently owned and operated not exceeding one hundred miles in length, electric street railroads, and electric interurban railroads."

In sustaining this act, Chief Justice White, writing the opinion for the majority of the court, says:

"That the business of common carriers by rail is in a sense a public business because of the interest of society in the continued operation and rightful conduct of such business, and that the public interest begets a public right of regulation to the full extent necessary to secure and protect it, is settled by so many decisions, state and Federal, and is illustrated by such a continuous exertion of state and Federal legislative power, as to leave no room for question on the subject. It is also equally true that as the right to fix by agreement between the carrier and its employes a standard of wages to control their relations is primarily private, the establishment and giving effect to such agreed-on standard is not subject to be controlled or prevented by public authority. But, taking all these propositions as undoubted, if the situation which we have described and with which the act of Congress dealt be taken into view—that is, the dispute between the employers and employes as to a standard of wages, their failure to agree, the resulting absence of such standard, the entire interruption of interstate commerce which was threatened, and the infinite injury to the public interest which was imminent—it would seem inevitably to result that the power to regulate necessarily obtained and was subject to be applied to the extent necessary to provide a remedy for the situation, which included the power to deal with the dispute, to provide by appropriate action for a standard of wages to fill the want of one caused by the failure to exert the private right on the subject, and to give effect by appropriate legislation to the regulations thus adopted. * * * * If acts which, if done, would interrupt, if not destroy, interstate commerce, may be by anticipation legislatively prevented, by the same token the power to regulate may be exercised to guard against the cessation of interstate commerce, threatened by a failure of employers and employes to agree as to the standard of wages, such standard being an essential prerequisite to the uninterrupted flow of interstate commerce.

"But, passing this, let us come to briefly recapitulate some of the more important of the regulations which have been enacted in the past in order to show how necessarily the exertion of the power to enact them manifests the existence of the legislative authority to ordain the regulation now before us, and how completely the whole system of regulations adopted in the past would be frustrated or rendered unavailing if the power to regulate under the conditions stated, which was exerted by the act before us, was not possessed. That regulation gives the authority to fix for interstate carriage a reasonable rate, subject to the limitation that rights of private property may not be destroyed by establishing them on a confiscatory basis, is settled by long practice and decisions. That the power to regulate also extends to many phases of the business of carriage, and embraces the right to control the contract power of the carrier in so far as the public interest requires such limitation, has also been manifested by repeated acts of legislation as to bills of lading, tariffs, and many other things too numerous to mention. Equally certain is it that the power has been exercised so as to deal not only with the carrier, but with its servants, and to regulate the relation of such servants not only with their employers, but between themselves. Illustrations of the latter are afforded by the Hours of Service Act, the Safety Appliance Act, and the Employers' Liability Act. Clear also is it that an obligation rests upon a carrier to carry on its business, and that conditions of cost or other obstacles afford no excuse and exempt from no responsibility which arises from a failure to do so, and also that government possesses the full regulatory power to compel performance of such duty.

"* * * * * What would be the value of the right to a reasonable rate if all movement in interstate commerce could be stopped as a result of a mere dispute between the parties or their failure to exert a primary private right concerning a matter of interstate commerce? Again, what purpose would be subserved by all the regulations established to secure the enjoyment by the public of an efficient and reasonable service if there was no power in government to prevent all service from being destroyed? Further yet, what benefits would flow to society by recognizing the right, because of the public interest, to regulate the relation of employer and employe and of the employes among themselves, and to give to the latter peculiar and special rights safeguarding their persons, protecting them in case of accident,

and giving efficient remedies for that purpose, if there was no power to remedy a situation created by a dispute between employers and employes as to rate of wages, which, if not remedied, would leave the public helpless, the whole people ruined, and all the homes of the land submitted to a danger of the most serious character? And finally, to what derision would it not reduce the proposition that government had power to enforce the duty of operation if that power did not extend to doing that which was essential to prevent operation from being completely stopped by filling the interregnum created by an absence of a conventional standard of wages, because of a dispute on that subject between the employers and employes, by a legislative standard binding on employers and employes for such a time as might be deemed by the legislature reasonably adequate to enable normal conditions to come about as the result of agreements as to wages between the parties?

"We are of opinion that the reasons stated conclusively establish that, from the point of view of inherent power, the act which is before us was clearly within the legislative power of Congress to adopt, and that, in substance and effect, it amounted to an exertion of its authority under the circumstances disclosed to compulsorily arbitrate the dispute between the parties by establishing as to the subject-matter of that dispute a legislative standard of wages operative and binding as a matter of law upon the parties. * * *"

"And this leaves only to be generally considered whether the right to exercise such a power under the conditions which existed was limited or restrained by the private rights of the carriers or their employes.

"(a) As to the carrier.—As engaging in the business of interstate commerce carriage subjects the carrier to the lawful power of Congress to regulate, irrespective of the source whence the carrier draws its existence, and as also, by engaging in a business charged with a public interest, all the vast property and every right of the carrier become subject to the authority to regulate possessed by Congress to the extent that regulation may be exerted, considering the subject regulated and what is appropriate and relevant thereto, it follows that the very absence of the scale of wages by agreement, and the impediment and destruction of interstate commerce which was threatened, called for the appropriate and relevant remedy—the creation of a standard by operation of law, binding upon the carrier.

"(b) As to the employe.—Here again it is obvious that what we have previously said is applicable and decisive, *since whatever would be the right of an employe engaged in a private business to demand such wages as he desires, to leave the employment if he desires, * * * * and by concert of action, to agree with others to leave upon the same condition, such rights are necessarily subject to limitation when employment is accepted in a business charged with a public interest* and as to which the power to regulate commerce possessed by Congress applied, and the resulting right to fix, in case of disagreement and dispute, a standard of wages, as we have seen, necessarily obtained.

"In other words, considering comprehensively the situation of the employer and the employe in the light of the obligations arising from the public interest and of the work in which they are engaged, and the degree of regulation which may be lawfully exerted by Congress as to that business, it must follow that the exercise of the lawful governmental right is controlling. * * * * The capacity to exercise the private right free from legislative interference affords no ground for saying that legislative power does not exist to protect the public interest from the injury resulting from a failure to exercise the private right. In saying this, of course, it is always to be borne in mind that, as to both carrier and employe, the beneficent and ever-present safeguards of the Constitution are applicable, and therefore both are protected against confiscation and against every act of arbitrary power which, if given effect to, would amount to a denial of due process, or would be repugnant to any other constitutional right. And this emphasizes that *there is no question here of purely private right, since the law is concerned only with those who are engaged in a business charged with a public interest*, where the subject dealt with as to all the parties is one involved in that business, and which we have seen comes under the control of the right to regulate to the extent that the power to do so is appropriate or relevant to the business regulated."

In this case the right of the Government to regulate labor, as well as capital, in the transportation industry, was clearly established, especially by the language which I have italicized in the above quotation. This applies where the industry is "affected with a public interest," even though it may be privately operated. How much more clearly, therefore, would it apply in the case of a public function publicly performed where continuity of service is essential to the public welfare!

The Industrial Conference convened by the President on December 1, 1919, in its preliminary statement, said:

"The continuous operation of public utilities is vital to public welfare. As the capital invested is employed in public use, so is the labor engaged in public service; and the withdrawal of either with the result of suspending service makes the people the real victim.

While the continuous operation of all utilities is conducive to the general convenience of the people, that of some of them is essential to their very existence. Of the latter class the railways are a conspicuous example and bear the same relation to the body politic as do the arteries to the human body. Suspension produces practical social and economic anarchy and may impose hardship even to the point of starvation upon large sections of the community. The interruption in such essential public utilities is intolerable."

In its final report, issued March 6, 1920, the Conference recommended a general plan for the adjustment of industrial disputes, which, with certain modifications, was to be made applicable to public utilities. A note attached to the public utilities section of its report says:

"The Conference wishes to point out that the continuity of employment in public utilities offers an opportunity for collective bargaining beyond that which has to do with standards only, the usual form in general industry. The kind of collective bargaining here described, and which is practicable in the case of public utilities, is a mutually advantageous extension of the collective bargaining principle into the region of a positive agreement to give and to undertake actual employment.

"Since the Conference issued its preliminary statement on December 19, 1919, the Congress has dealt with the railway situation by the Transportation Act, 1920, and a Special Commission also has been created with respect to bituminous coal mining. A majority of the Conference, therefore, has deemed it unnecessary to suggest any provisions for the legal prevention of strikes in public utilities, in this plan, believing that the continuous operation of such utilities will be secured through the acquiescence of employes in the workings of the machinery created by the plan, especially when voluntarily invoked or accepted by them.

"Mr. Gregory, however, feels that the continuous operation of railroads and other transportation systems, of water, light, gas, telegraph and telephone plants and of groups of coal mines, all essential to the convenience and frequently the very existence of the general public, should be assured. He considers that the Conference has provided fair and adequate machinery for the prompt adjustment of disputes between employer and employe.

"He was willing to accept a plan which would have made lockouts and strikes in these essential industries unlawful during the time the proposed tribunals were seeking to determine and publish the facts and settle the issues involved, and during the subsequent brief period within which the parties to the controversy were to accept or reject the award made, and during the period covered by the award in case both parties accepted it.

"He considers that the plan adopted furnishes no real guaranty that either of the contesting forces, even after having voluntarily submitted its contentions to the tribunals, and even while representatives of its own unrestricted choosing are sitting as judges and participating in an effort to settle the dispute by a decision which must be unanimous in order to be binding, shall not repudiate these tribunals and thereby precipitate the very situation which the proposed machinery is intended to prevent."

It will be seen that the Industrial Conference at the start recognized that the interruption of essential public utility services is intolerable, but later on the majority reached the conclusion that it was unnecessary to suggest any provisions for the legal prevention of strikes in public utilities, believing that the plan suggested for the voluntary adjustment of disputes would make coercive measures unnecessary.

The subject is so important that I shall give an analysis of the two plans proposed in New York just before the United States entered the war. A full description and discussion of them was published in the *Utilities Magazine* for August, 1917, under the title, "Proposed Guaranties of Continuity of Service in Public Utilities in New York." This article starts off with the following statement:

"In upholding the Adamson Law the United States Supreme Court has established the principle that the paramount public necessity for continuity of service, in a business affected with a public interest and therefore subject to public regulation, gives legislative bodies, even under our constitutional restrictions, the right not only to regulate hours and conditions of work, but also, in the absence of voluntary agreement between employers and employes, to fix wage standards and prohibit concerted efforts to interrupt service."

It appears that the New York Public Service Commission for the First District, following its rather unhappy experience in trying to handle the strike situation in New York City in the summer of 1916, turned its attention to the study of measures to prevent the recurrence of such troubles. Mr. Oscar S. Straus, then chairman of the commission, and Mr. Julius Henry Cohen, who had been retained as the commission's special counsel in connection with the street railway strike difficulties, devised for the commission a "proposed plan to provide for fair and reasonable wages and working conditions and to prevent interruption of the service on street railroads." This plan was made the subject of a series of public hearings during the month of February, 1917, as a preliminary to its revision and formulation into a definite legislative program. Another plan was worked out by the Merchants Association of New York, embodied in a bill and introduced in the legislature during the 1917 session.

The first item in the commission's plan was the affirmative declaration, to be embodied in the public service commissions law, of the obligation of street railway companies to "provide for the payment of fair and reasonable wages and salaries to all employes engaged in the service" and to "make provision for fair and reasonable working conditions in the performance of such service."

The second item was an affirmative declaration of the obligation of street railway companies to provide themselves with the employes necessary to "secure continuous, uninterrupted, safe and adequate transportation of persons or property" and to "promote the security or convenience of employes, passengers, shippers or the public." The employes which the companies were to procure and have in service were to be "adequate in number, competent, and governed by rules and regulations as to discipline, competency, wages, hours of work, working conditions, employment, promotion, benefits, retirement upon pension or otherwise, discharge or termination of service or reinstatement and contract or terms of employment," in accordance with the provisions of the proposed act.

The third item of the plan was to the effect that the determination of what shall constitute fair and reasonable wages and fair and reasonable conditions of work might be made either (a) by mutual agreement between employer and employe; (b) by the wage board to be constituted according to the provisions of the proposed act; or (c) by the public service commission of the district having jurisdiction over the employer. A later item of the plan which seemed to have the effect of modifying this one provided that "agreements, rules or schedules regulating wages or working conditions" should be filed with the Public Service Commission and be "subject in all respects to its approval."

The fourth item provided for the organization of the employes on the basis that any ten or more employes engaged in any branch of any service over which the commission had jurisdiction "may form an association or union, or a branch or local of any existing association or union, and shall thereupon have the right to represent its members in all negotiations with employers, and to appear and be heard in any proceeding relating to wages or working conditions affecting its members, upon condition that it shall file semi-annually with the commission: (a) a certified copy of its articles of association, certificate of incorporation and by-laws, rules or governing regulations; (b) a full and true list of its officers;

(c) a full and true statement of the number of its members and the branches of the service in which they are employed; and (d) a consent in writing, signed by its duly authorized officers, to accept and abide by all decisions, awards and orders of the commission or the wage board when approved by the commission."

In the fifth item it was provided that any association or union registered in the manner above described might negotiate with any employer under the jurisdiction of the commission for the purpose of establishing a joint agreement upon wages and working conditions. Upon the application of either party, the commission was to designate an impartial person to preside over such negotiations, but without power to decide or vote upon any subject-matters involved in them.

The next item of the plan, and the one that proved to be one of the two storm centers of discussion at the public hearings, provided that the commission should make suitable rules and regulations for the establishment of a wage board whose duty it would be to investigate and certify to the commission its findings upon all matters of wages and working conditions. The wage board was to be constituted as follows: One-half its members were to be nominated by the employer and one-half by the representatives of the employes. Any duly registered association or union would be entitled to nominate such number of representatives as the commission should determine to be "reasonably proportionate" to the number of its members, with due regard to representation of unorganized employes and taking into account the total number of all employes. If the persons so nominated by the respective parties were approved by the commission, the latter was to organize and complete the wage board, provide suitable accommodations for it, and furnish such clerical, statistical and other assistance to it as might be required for the due performance of its work. The members of the wage board were to receive such compensation for their services as should be fixed by the commission, and the compensation so fixed was to be paid by the state. In the introductory statement at the first of the series of public hearings, Chairman Straus said that the commission had purposely left open the question as to whether there should be one wage board for the entire district under the jurisdiction of a commission or a separate wage board for each individual utility, and upon this point particularly he invited suggestions.

The next item of the plan related to hearings and determinations. It provided that all applications for the fixing of wages or working conditions not established by mutual agreement should be referred to the wage board for hearings and findings, and that upon the report of the wage board the commission should make a determination binding upon all parties concerned. In case the wage board failed to agree, or if no wage board was established, then the hearings were to be had before the commission itself, which would make its determination upon its own findings, but applications for a wage determination were not to be made under this plan until a reasonable opportunity had been given to both employer and employe to come to a mutual understanding. The determination of what should constitute such reasonable opportunity was to be left with the wage board, or in case of its failure to agree, or in case no wage board had been established, then to the commission.

The next item of the plan provided that the maintenance of discipline and efficiency should rest with the employer, but any employe who thought himself aggrieved and who was unable to secure redress from his employer might obtain through the wage board or the commission an investigation of his grievance. If either of these bodies, upon investigation, found that the petitioner was justly aggrieved, it was to make such order and award as it deemed fair and reasonable, and for the good of the service, including the reinstatement of a discharged employe, and in such case an award of back pay.

The next item referred to existing and future contracts. All existing contracts fixing wages or working conditions were to remain in full force, and no person regularly engaged in an operating service was to be engaged or retained in the service for an indefinite period or upon a hiring at will, but the parties were required to fix a definite period or term of service, and in the absence of any other agreement it was to be understood and implied that this period or term was for one year and thereafter from year to year, unless terminated upon thirty days' notice. The operating service as defined included the furnishing of motive power, and the classes of operatives specifically mentioned were motormen, drivers, conductors, engineers, trainmen, brakemen, firemen and switchmen.

The next item of the plan covered the matter of limitations upon strikes and lockouts, and this proved to be the second storm center of discussion. It was provided that, pending negotiation, investigation and determination as above outlined, there should be no lockout or strike on any service subject to the provisions of the proposed act and that no action should be taken in group or concert or by agreement tending to interrupt the service; but it was expressly stated that nothing contained in this provision should be construed to prevent employes from organizing to improve or better their condition in accordance with the provisions of the plan.

A violation of any of the provisions of the proposed act "by any person, firm or corporation, officer, agent or employe of an association or union or by any employer, officer or agent" was to be a misdemeanor punishable by fine, the amount of which was left to be determined later on. The provisions of the plan were to apply to street railways and to employes and organizations of employes engaged in the service of street railways.

While the Public Service Commission plan applied only to street railroads, the Merchants Association plan applied to all public utilities not engaged in interstate commerce, and specifically included corporations and their employes who were engaged in the work of transportation, transmission of intelligence, or the furnishing of light, power, heat or water. The central feature of the Merchants Association plan was the provision requiring the public service corporation and each of its employes to enter into reciprocal contractual relations. After a reasonable period of probation, which should not exceed six months in duration, every person whom the corporation desired to employ permanently and who on his part desired so to be employed, was to be required as a condition of such employment to enter into a service contract for a period of not less than one year nor more than three years, under the terms of which both the

power of the corporation to discharge the employe and of the employe to withdraw from the service were, during the period of the contract, definitely limited. No form of service contract proposed by a corporation could be adopted for use until it had been approved by the Public Service Commission. This contract was to specify the particular acts or omissions either by the corporation or by the employe which would constitute violations of the agreement and the fine or other penalty to be imposed for each violation. Also the contract was to describe the mode of procedure for the appeal of either party from penalties assessed against it under the terms of the contract.

Both the corporation and each employe were to provide funds for the payment of fines imposed in accordance with the terms of the service contract. The employer's penalty fund was to be established in an amount to be approved by the Public Service Commission and to be deposited with a trustee, also approved by the commission. The employe's penalty fund was to be created through the retention by the corporation of 20 per cent of his wages from the date when the service contract took effect, through a period equal to ten weeks of full time service, or in other words, this fund was to be made up of the equivalent of two weeks' wages of the employe. The corporation was required on each anniversary of the date of the service contract to pay the employe interest at the rate of 5 per cent upon the average amount of the penalty fund so retained from his wages during the preceding year, and at the termination of the service contract in any of the ways provided for the employe was to receive any balance then existing in his penalty fund.

The employer or employe, as the case might be, was required to give to the other notice of any claimed violation of the terms of the service contract within ten days after the aggrieved party had come to know of such violation. The adjudication of claims as between the employer and the employe was to be effected in one of the following ways: (1) by mutual agreement and consent; (2) by the board of award; (3) by the Public Service Commission on appeal from a decision of the board of award; or (4) by an action in court to enforce or set aside the commission's order. A board of award, to be created by joint action of each corporation and its employes, was to consist of from three to nine members, one of whom was to be appointed by the Public Service Commission and the others in equal numbers by the company and its employes. The members of the board were to serve for one year and until their successors were duly qualified. Obviously, the company would need no help in selecting its representatives, but the plan established the machinery by which the representatives of the employes were to be selected. On or before December 1 of each year the corporation was to distribute to all employes who had been in service one year or longer cards on which each employe might write the names of as many persons as the employes were entitled to appoint. These cards were to be signed and delivered in a sealed envelope not later than December 20 to the secretary of the corporation, upon whom the duty would rest immediately after that date to open the envelopes, to tabulate the votes, to report to the Public Service Commission in a sworn statement the names of all persons voted for and the number of votes cast for each and to declare elected those receiving

the highest number of votes. To start with in every case, the number elected by the corporation and by the employes respectively to serve for the first year was to be three, but thereafter the number might be determined by a majority of the members of the existing board within thirty days prior to the expiration of their term of office.

A service contract could be terminated by the corporation either (1) because the employe had been guilty of any misconduct defined in the contract as a cause of discharge; or (2) because the business rendered the employe's services no longer necessary, in which case the employe either should be given thirty days' notice of his intended discharge, or should be paid two weeks' salary or wages if discharged without notice; or (3) because of disability on the part of the employe such as to disqualify him for rendering service for which he was employed, in which case the employe was to be entitled to thirty days' salary and immediate release, unless the board of award certified that his disability was due to his own wrongful conduct. On the other hand, the employe could terminate the service contract either (1) because of valid family or personal necessity certified to by the board of award; or (2) because of disqualifying illness or of unfavorable occupational effect upon his health duly certified by the board of award; or (3) without penalty and without stating the cause of his withdrawal, provided the employer was given not less than thirty days' notice and gave his consent.

The plan stipulated that the corporation should recognize and respect the right of the employe to membership in any lawful organization, and should not discriminate against him because of such membership. The employe also was to have the right alone or in combination with others to ask from the employer concessions in wages, hours of work, or conditions of service. Any such request was to be given prompt and fair consideration, and the company was not to discriminate against the employe because of his participation in the request.

The Merchants Association plan, like the Public Service Commission plan, provided for continuity of service, and prohibited any employe from combining with others to cause embarrassment or interruption of the service to the public which was required under the company's franchise. Any corporation that discharged an employe during the term of the service contract with him, except as provided in the act, and any employe who during his term of service wilfully refused or neglected to perform the service required of him by the contract, was to be guilty of a misdemeanor.

Perhaps the most important criticism of the Public Service Commission plan developed at the public hearings was that made by the Committee on Public Utilities and Franchises of the National Consumers' League. This committee, in its memorandum, maintained that the interest of the general public in continuity of service is not in fact paramount, but that the rights of the employes are to be considered of equal importance. Indeed, the committee went so far as to say that "from a wider point of view the public has an interest in seeing industrial peace preserved which far exceeds in importance its own demands for safety and continuity of service." The committee's fundamental objection was to the compulsion that would restrict the employes' right to strike. "All forms of com-

pulsion in settling industrial disputes," said the committee, "are more and more held to be of doubtful benefit by officials who have the widest experience in industrial mediation and arbitration. * * * * There is apparently grave doubt on the part of experts whether compulsion in itself will accomplish the end sought, and whether public investigation and full publicity are not rather to be regarded as the most effective instruments in bringing about settlements. * * * * What is immediately needed is machinery for a continuous and comprehensive inquiry into all the conditions of labor, with full publicity for all the findings." Among the committee's specific criticisms of the commission's draft, emphasis was laid upon the claim that the plan would unduly restrict the rights of the employes. Particular reference was made to the provision requiring the employes to pledge themselves in advance to abide by the orders, decisions or awards of the commission. The committee also called attention to the disadvantages to the unions in the proposed composition of the wage boards, and pointed out that, while the employer's representatives on a board would obviously stand as a unit, the employes' representative would be disorganized and inevitably break up into different sections. "There is great danger," said the committee, "that this plan would promote the formation of artificial or fictitious organizations under the control of an unscrupulous employer. It would undoubtedly increase the divisions in the ranks of labor rather than promote the power of collective bargaining. * * * * Unorganized workers are by necessity represented by the spokesmen of the unions. If, at any time, they are not satisfied with the findings, it is open to them to organize and make their influence felt for themselves." The committee urged the importance of having no union represented on the wage board unless it included at least one-fourth or one-fifth of the employes, and also urged that the public, the recognition of whose interests was at the very foundation of the plan itself, should have representation on the board. The committee suggested that the representatives of each of the three parties—employer, employes and the public—should cast their vote as a unit. The committee also criticised the provision of the plan calling for "fair and reasonable" wages and working conditions. It contended that this standard was altogether too indefinite to be satisfactorily applied, and suggested that "the actual facts as to the prevailing conditions of the service" should be placed at the disposal of the wage board. "It is an obligation upon the public conscience," said the committee, "that the benefits of the franchises which are granted to the street railroads should not be enjoyed exclusively by the traveling public or by the corporate stockholders, but that they should be shared in fair proportion by the men who do the work. There is every reason, therefore, to give the boards an opportunity to consider the earnings of the companies as an important factor in fixing the wage scale." The committee also pointed out that the restriction imposed upon the employes by the prohibition of "lockouts" is illusory so far as any benefit to the men is concerned, for without resorting to a lockout the employer could still make "wholesale dismissals of individuals charged with insubordination or any kind of offense." The committee maintained that the employes of a street railway company do not now enjoy any of the advantages conferred upon the company by the franchises, and alleged that

the primary aim and benefit of the proposed plan, namely, the rendering of continuous service, would accrue to the companies who would thereby be saved from the forfeiture of their franchises. Indeed, it was pointed out that "the employes of franchise companies from the nature of the service are subject to special obligations and restrictions which do not obtain in private employment," and it was urged that "they should be guaranteed a high level of compensation and of working conditions." "As quasi-public servants," contended the committee, "they might well be put in the same class with the direct employes of the state or municipality. Men entering public service have certain rights and privileges, such as security of position, in general better pay, and more and more frequently a right to retirement pay. If a number of such substantial rights were definitely guaranteed to the public service employes, it would go a long way, without compulsion, towards avoiding the present troubles that disrupt the service." The committee further suggested that the provisions of the plan were insufficient to secure full and immediate publicity, and urged that the Public Service Commission's power be extended so as to include express authority to require from the companies reports concerning all the conditions of labor.

Mr. Samuel Gompers also appeared before the commission on behalf of organized labor, and strongly opposed the compulsory features of the plan, stoutly maintaining that the men could not be prevented by law from exercising their "God-given natural right" to stop working. The representatives of the principal traction companies of New York City also expressed their general opposition to the commission's plan. Col. Timothy S. Williams, then president of the Brooklyn Rapid Transit Company, was most definite and outspoken in his criticisms. He feared that instead of procuring continuity of service and the establishment of better relations between the companies and their employes, the plan "would be productive of unrest and dissatisfaction tending to disturb relations which are now harmonious and fairly satisfactory."

"You speak of employers and employes of street railroad corporations," said he, "and you arraign one against the other. * * * * As president or director of a street railroad corporation I am just as much an employe as a conductor or a motorman. The real employers are the numerous body of men and women and institutions that, having acquired savings, put those savings at work in supplying and developing transportation. They are a substantial part of what is called the public. Your plan * * * * presupposes, not natural and spontaneous harmony between these participants, but antagonism, and the doubtful peace sought to be enforced by law or official fiat. * * * * Your plan may look like the short route to industrial peace but it is not the natural route, nor the safe route, nor the permanent route, nor is it founded on a sound principle. In its practical application it would tend to breed trouble, not to allay it. * * * * No legislative reforms are likely to be so abortive as those which have to do with the delicate relations between labor and capital, and which on the one side may threaten fundamental principles of individual freedom, and on the other side, imperil or unnecessarily shackle business and industry. The better and surer way to correct industrial evils is by encouraging a more enlightened comprehension of respective self-interest between employed and employers."

Colonel Williams cited the success of his own company in maintaining harmonious relations with its employes. As a matter of fact, his car lines were the only important ones in the city that were not affected by the strikes of 1916, but since that time they have not been immune.

These two New York plans, while differing widely in details, agreed in their fundamental adherence to the principle of legal compulsion for the preven-

tion of the interruption of public utility service through the concerted action of employes. It was against this principle that the Consumers' League and the representatives of labor, and to a certain extent the companies themselves, protested most vigorously. From the standpoint of those interested primarily in the welfare of the employes, it seemed essential that the full protection of the men should take precedence over the interests of the traveling public. While it was universally recognized that continuity and sufficiency of service were of great public importance, there was a disposition on the part of the advocates of the employes to refuse to recognize the public interest as paramount. The then recent strikes on the New York City street railway systems and the threatened strike on the railroad system of the United States appeared to them as mere incidents in the development through a long course of years of the relations between labor and capital, and did not in their opinion give ground for the assertion that the relative importance of the interests of the three parties—employers, employes and the public—had materially shifted. The Public Service Commission's plan and the Merchants Association plan in effect said to the employes: "You must keep on working. The state will see that you are properly protected in the matter of wages, hours and conditions of labor." The spokesmen of the employes, on the other hand, said in substance: "Give us first the protection that we ask in the matter of hours, wages and conditions of labor, and it will be unnecessary for you to forbid us to strike, for then we shall have no reason to strike." What to one party seemed getting the cart before the horse, to the other seemed getting the horse before the cart. The proponents of the plan of compulsion differed quite radically with the committee of the Consumers' League in one respect: they maintained that the employes of public service corporations now do as a matter of fact enjoy substantial and peculiar benefits growing out of the nature of the business, and out of the privileges conferred and the obligations imposed by public franchises. They pointed out particularly that public utilities are not by any means subject to the same fluctuations in the demand for service which is characteristic of most other lines of business; that the franchise requirements of continuous service to prevent forfeiture automatically exclude from consideration the possibility of lockouts or temporary shutdowns from which employes in other branches of work so often suffer; and that the employes of public utilities, particularly of street railways, coming as they do in continuous contact with the public, are in a much more favorable position for securing the support of public opinion in their struggles for better wages and working conditions than the employes of private industries.

A consideration of the Public Service Commission plan, and of the various objections to it and criticisms of it, leads inevitably to the conclusion that as presented, it was defective in many respects, and that the two plans together raised a fundamental issue which seems to involve primarily a struggle for precedence between the interests of the public as a direct or indirect consumer of public utility service, particularly transportation, and the interests of the employes of the public service corporations.

An important distinction which we sometimes overlook is that between the public as a consumer of utility service, and the general public constituting society

as a whole, whose interests are, or should be, paramount in the formulation and execution of all governmental policies. As a consumer of utility service, the public, like any other buyer of goods, is interested in getting as much as it can for as small a price as possible. The public in this narrower sense is, therefore, primarily interested in good service and low rates. It has no interest in the security of public utility investments, nor in their receiving a fair return, nor in the guaranty of good wages, short hours, and reasonable conditions of employment to the employes, except as these things indirectly react upon the character of the service rendered, or upon the rates to be charged for the service in the future. On the other hand, the general public, of which government is the organ, is as much interested in the security and reasonable profitableness of the investment and in the welfare of the employes as it is in the cheapness of the service to the consumers. The general public includes all three of the parties immediately concerned and is interested in the preservation of the equities among them. Indeed, every special interest is compelled ultimately, in a civilized community, to rely upon the sense of justice of society as a whole acting through governmental agencies; and it is safe in doing so because the observance of the law of justice has been proven by the world's experience to be the first rule of self-preservation for political societies. The establishment of courts freed as far as possible from temporary and conflicting political influences and the establishment of public service commissions removed from the special financial interests of the local consumers of public utility service are attempts to organize in an effective way society's sense of justice. Ultimately every individual and special interest has to "throw itself on the mercy of the court"; for beyond government, there is no human guaranty of any right whatever in the relations of men to one another. We ought, therefore, to consider the public service commissions, the courts, or any other governmental agencies established for the purpose of preventing strikes in public utilities, as representing the interests of society as a whole—the general public as distinguished from the consumers of the utility. If we make this distinction there can be no doubt whatever that the interests of the general public are paramount as against the interests of any one or all of the three parties immediately concerned in the operation of a public utility.

From this point of view, the interest of the narrower public—the consumers—appears to be coordinate with that of the employes and the employers, and cannot claim precedence over them except to the extent that the welfare of the consumers as such may be more important to society as a whole than the welfare of either the employers or the employes. It is not clear beyond the possibility of dispute that the interests of the consumers are more important than the interests of the other parties. True, the consumers are vastly more numerous than either the employes or the employers, even if we accept Colonel Williams' definition of the employers as the stockholders and bondholders who have put their savings into public utility investments. On the other hand, it is also a fact that the interest of a street railway employe in the conduct of the street railway business is much more important to him than the interest of the average citizen in the conduct of the street railway business. To the employe the street railway business is his life; to the average citizen who rides on the cars, it is only

one of many factors of his life. To be sure, with the growth of cities and increasing dependence of citizens upon street railway transportation, this particular factor, except as modified by automobile competition, tends to become more and more important. In comparing the interests of the riding public with the interests of the bondholders and stockholders, we may also say that possibly the average investor has more at stake in the street railway business than the citizen who rides on the cars. Clearly, the interest of the employes, if we include in that term all the operating men who devote their lives to the business, is more intense on the average than either the interest of the investors or those of the riding public. If the investors fail to earn a fair return upon their investments their loss, as a rule, is only partial and incidental; if the citizens who ride have to pay excessive rates or submit to inadequate service, their loss also as a rule is partial and incidental; but if the employes suffer through either insufficient wages, excessive hours or improper conditions of work, their loss is not partial or incidental but affects them directly "where they live." With the great increase in the size of cities, the dependence of the individual car rider upon the continuity of service, as well as upon the quality of service, gets to be more and more vital. To many it appears that interruption of street railway service in a great city affects so profoundly so many individuals and so many interests as practically to constitute a paralysis of social life, thereby threatening not merely the interests of the individuals who wish to ride and cannot, but the vital processes of society itself. The fundamental question, therefore, appears to be this: "How great a calamity to the community at large is a street railway strike?" While it may possibly be true that the calamitous consequences of street railway strikes sometimes have been overstated, nevertheless, other things being equal, they become more and more disastrous to the general public as cities grow and traffic increases.

I cannot agree with the position taken by the labor leaders and the Consumers' League in opposition to compulsion. I believe that continuity of service has become of sufficient importance to society at large to warrant the legal prohibition of street railway strikes. As Chief Justice White well said in the *Adams* law decision, the rights of the employe to demand what wages he desires, to leave his employment if he does not get them, and by concert of action to agree with others to leave, "are necessarily subject to limitation when employment is accepted in a business affected with a public interest." This being "affected with a public interest" is what differentiates public utilities from ordinary private industries. It is the increase in the consumers' interest that disturbs the old tripartite equilibrium and tends to make the interests of the patrons of the utility preponderant. Whatever may be our view as to the present status of this development, it seems reasonably clear that the prohibition of strikes in businesses affected with a public interest is not only permissible, but theoretically logical and necessary. Those who object to compulsion on theoretical grounds take a position that is quite untenable. It is much as if two farmers quarreled over the ownership of a piece of land, and one of them insisted on the right to barricade the public highway in order to prevent the other from hauling his produce to town. To the general public which would prohibit *him* from ob-

structing the highway and would offer to decide the dispute through a court established for such purposes, he would say: "No! I object to compulsion being applied to me. First, make my neighbor do what I want him to, and there will be no need for restraining me, for then I will not wish to close the road. Or, if you do not wish to compel him to be fair, leave it to me; for I can exercise more compulsion by shutting him away from his market, than you can by all the court decrees in the world." The strike is a form of private war—mild at times, and then again not so mild. By what right should public business be interrupted with impunity through these private wars? Why should they not be prohibited and the disputants compelled to take their claims before a public tribunal and rely for protection upon the community's sense of justice, which is the ultimate protection of every man and every legitimate interest? Unsuccessful strikes leave labor sore and plotting for the next struggle. Successful strikes leave capital full of distrust, bitterness and fear. Shall we ask: Does war promote good feeling and the spirit of cooperation? Interruptions of service not only cause the temporary discomfiture of the public, but also tend to make impossible the spirit of public cooperation upon which, as everybody admits, the financial success of the electric railways depends. Street railway strikes are a serious public menace. They must be prevented. As a matter of right the public must assume ultimate responsibility for the wages, hours and conditions of work of electric railway employes, and in view of the public nature of the employment the men must surrender some of the rights that attach to labor in strictly private industry. It may be that the legal prohibition of the strike will become a more or less academic question if the public first takes adequate measures for the fulfillment of its own responsibility towards street railway labor, but on general principles it cannot for a moment be conceded that labor's "right to strike" is paramount to the public's right to have local transportation service go on without interruption. At the same time, punitive legislation is useless unless it is effective, and in matters like this it can hardly be effective unless accompanied by preventive legislation that is effective in the first instance, and it may be that proper preventive measures, while in theory preparing the way for and justifying punitive measures, will in fact make the latter unnecessary. This can be determined by experiment, but, as a matter of principle, after the community has adopted measures which in its judgment make strikes in essential public industries unnecessary, its right to prohibit and penalize them cannot be doubted and ought not to be denied or given up by implication or otherwise. If the rights of the employes in a public industry cannot be protected without the use of the strike, we need a change of government. The ultimate remedy for such a condition is political, and street railway motormen and conductors have the same recourse to the court of public opinion and the ballot box that other groups of citizens have.

CHAPTER XLVI

THE PROGRAM OF THE AMALGAMATED

Mr. W. Jett Lauck, former secretary of the National War Labor Board, submitted a brief on behalf of the Amalgamated Association of Street and Electric Railway Employes of America, had general charge of the preparation of the labor case, and was himself one of the principal witnesses before the Commission on labor's behalf. While he did not discuss specifically the theoretical aspects of the employes' "right to strike" as against the public's right to continuity of service, Mr. Lauck, on behalf of the employes, declared emphatically that the public interest in the electric railway industry is paramount, as will be seen from the following statement taken from pages 83 and 84 of his brief:

"The paramount interest in the entire situation is the public interest. It is dependent on the street railways. The public cannot permit them to cease operation. The transportation facilities are too vitally bound up in their daily lives and activities. The public, therefore, is forced to act.

"The present emergency has only stimulated and brought into the foreground the significant relation between the street railways and the general public. The realization of this truth has been steadily developing. In former years, electric railways were looked upon as purely private enterprises. They were regulated only on the ground that they were monopolies. Their securities were, to a large extent, speculative, and offered, because of the monopoly control of the companies and the extraordinary growth of towns and urban centers, unusual opportunities for speculation, manipulation, and large returns. Street car passengers were looked to by the companies as a source of revenue and profit.

"With the growth in urban life, however, this original conception gradually changed. The trend of opinion came more and more to the conviction that the street railways were social institutions. The modern view, entirely aside from the present plight of the railways, has come to be that the street transportation industry is a public institution serving as highways or common carriers for the people. If this is the generally accepted view at the present time, and the testimony before the Commission clearly shows that it is, the practical question is: What measures shall the Commission recommend not only to rehabilitate the industry financially and conserve the properties, but also, what constructive policies, permanently to develop and maintain the most economical and efficient facilities for the use and convenience of the public. The fundamental point is, in other words, how can the street railways be best rehabilitated, operated, and developed for the benefit of the people, due regard being had for the fundamental and proper interests of capital invested in the properties and of labor employed by the street railway companies. The public is undoubtedly willing to pay for the efficient operation of street railways on the basis of just guaranties to capital and labor. The problem of the Commission is to consider all facts and constructive proposals and to recommend, with these just guaranties to labor and capital in mind, a practical scheme of reorganization and operation of the industry."

Going on to discuss the rights of capital, Mr. Lauck, at page 84 of his brief, says:

"Capital has the right to demand that its investment insofar as it has been actually and prudently made and honestly administered should be not only conserved, but, if the public should acquire any or all of the properties, that it should reimburse the owners for the actual values, or, on the other hand, if the public should only operate and not acquire the properties outright, that capital should receive a reasonable and proper rate of return."

With respect to the fundamental rights of labor and the interest of the employes in the rehabilitation of the electric railway industry, the following declaration is made at pages 84 and 85 of the brief:

"The employes have as direct and more vital interest in the prosperity of the industry than even the investors of capital. Should street railways become insolvent, the owners of capital might suffer a heavy pecuniary loss. The employes, on the other hand, would lose their immediate means of livelihood. Furthermore, many of the employes have spent a number of years or a lifetime in the service of the industry. They have devoted their working years to the acquisition of training and experience which they could not sell as advantageously in other lines of industrial employment. They may be said, therefore, to have a vested interest in their positions on the street railways which is even more valuable and vital to them than the vested interest which capital has in the owners of street railway securities.

"The employes are therefore anxious to have the industry rehabilitated and made prosperous. They are desirous of having the public protected because the public interest is paramount. They insist, however, and too great emphasis cannot be put upon their contention, that the reconstructive policy undertaken must be based upon and accepted as a fundamental preliminary, the rights of labor, as accepted by all civilized and leading industrial nations in the Treaty of Peace with Germany, and the principles which have been accepted and proclaimed by our own Government as those which should govern the relations between employers and employes."

The three fundamental planks in the Amalgamated Association's program, as set forth by Mr. Lauck and the other witnesses who testified on behalf of labor, are (1) "the right to organize, or union recognition;" (2) "the establishment, on the basis of a national standard, of a living wage for the employes in the industry;" and (3) "the eight-hour workday." After presenting and urging the importance of these three fundamental demands, Mr. Lauck, in his oral testimony, reaffirms the doctrine that the public interest in the electric railway industry is paramount. At pages 1967 and 1968 of the Proceedings, he says:

"We are advocating these principles as a part of the industrial Bill of Rights, so to speak, which is a part of the new idea of democracy in industry. Of course, as we are all aware, out of the war has come an entirely different attitude towards industry, the idea being more and more prevalent that industry is a social institution, and must work for the common good; that both labor and capital in their rights must be protected, but that the public interest must be paramount. So it has occurred to us in the consideration of this body that here you have a situation where the public interest is manifestly predominant and where there should be a recognition of these principles in working out a constructive program. And we have refrained from asking specifically for the establishment of any rates of pay by the Commission; putting in the data as illustrating what should be a living wage; but we ask that the Commission recognize these principles and then they can be worked out by the management and the employes in the way that seems wise and best to them, and in the way that will prevent dislocations or undue interference with the proper development of the industry.

"But we think that labor has a right to the recognition of these principles which were in the War Labor Board and the Peace Treaty and we earnestly request the Commission to consider them, and irrespective of the immediate financial effect, leaving it to the good judgment of the management and employes to apply them in the best way possible, and we are perfectly content to have the employes clothed with the responsibility of cooperating to the fullest extent and making them in every way fully responsible. We are fearful on the other hand of failure to recognize these principles, as we all know the tendency now is in industry, and especially on public utilities, if we do not have the fair measure of economic rights on the part of employes, the tendency will be to drive the conservative leaders into more radical proposals, and maybe that has the tendency, as in steam railroads, to the advocacy of schemes which are really the autocracy of labor, which we do not think is any better than the autocracy of capital, but the autocracy of industry ought to be in the public, not in capital or labor but in the public and with just guaranties to both capital and labor."

The clear inference from the statement just quoted is that the Amalgamated Association is opposed to the so-called Plumb Plan advocated by the railroad brotherhoods, and would regard such a plan as tending to establish the "autocracy of labor" which, in Mr. Lauck's opinion, would be no better than the "autocracy of capital." It would not be safe to infer from this testimony that

the Amalgamated Association would be willing to accept a plan under which the paramount interest of the public in continuity of service would be protected by the prohibition of the strike, along with guaranties, deemed by the public to be adequate, that the fundamental rights of labor shall be conserved. Still, Mr. Lauck's declaration forms a logical basis for such a conclusion and such a policy. It is perhaps fair to assume that the employes, if asked to accept this conclusion, would strongly insist that before accepting it they be shown the guaranties, and be satisfied that they are in fact adequate. They might take a position similar to that taken by Mr. James H. Vahey in relation to the legislation proposed by the Massachusetts street railway commission, and furthermore, might maintain that if their fundamental demands as outlined by Mr. Lauck and their other witnesses are conceded anti-strike legislation will be unnecessary. It is incumbent upon us, therefore, to examine in some detail the principles for which the Amalgamated Association demands clear-cut recognition.

The first principle for which the Amalgamated Association contends is the recognition of the union. In support of the "right to organize" for collective bargaining, Mr. Lauck cites in his brief the text of the labor clauses of the Treaty of Versailles in which "the right of association for all lawful purposes by the employed as well as by the employers" is laid down as a principle of special and urgent importance. In this same connection, Mr. Lauck cites the principles "which our own Federal Government adopted as an industrial code or constitution, so to speak, during the great war, and which were interpreted and applied by the National War Labor Board," including the following:

"The right of workers to organize in trade unions and to bargain collectively through chosen representatives is recognized and affirmed. This right shall not be denied, abridged, or interfered with by the employers in any manner whatsoever.

"The right of employers to organize in associations or groups and to bargain collectively through chosen representatives is recognized and affirmed. This right shall not be denied, abridged, or interfered with by the workers in any manner whatsoever.

"Employers should not discharge workers for membership in trade unions, nor for legitimate trade-union activities.

"The workers, in the exercise of their right to organize, should not use coercive measures of any kind to induce persons to join their organizations nor to induce employers to bargain or deal therewith.

"In establishments where the union shop exists the same shall continue, and the union standards as to wages, hours of labor, and other conditions of employment shall be maintained.

"In establishments where union and non-union men and women now work together and the employer meets only with employes or representatives engaged in said establishments, the continuance of such conditions shall not be deemed a grievance. This declaration, however, is not intended in any manner to deny the right or discourage the practice of the formation of labor unions or the joining of the same by the workers in said establishments, as guaranteed in the preceding section, nor to prevent the War Labor Board from urging or any umpire from granting, under the machinery herein provided, improvement of their situation in the matter of wages, hours of labor, or other conditions as shall be found desirable from time to time."

In support of the right of the employes to organize in the electric railway industry, Mr. Lauck, in his brief, says:

"The time has passed when collective bargaining can or should be interpreted in any other way than as to mean the recognition of trade unions or labor organizations. As urged by employes, it means union recognition. They do not contemplate, neither will they accept committee systems promoted and installed on the initiative of street railway officials for the reason that they know that any such systems of collective bargaining do not really safeguard the interests of labor, and cannot, therefore, permanently endure or be permanently effective. They demand the recognition of the rights of the employes to organize into labor unions, and to deal with the companies with accredited representatives. This does not necessarily mean

the adoption of the closed shop principle, but does mean that the street railway managements shall conduct all negotiations as to wages, working conditions, and relations with a recognized labor organization. In localities where the employes of the companies are not already organized into unions, it shall be the duty of railway managers not to discourage the employes to form labor unions as a means of dealing with the management.

"This principle as to union recognition is no longer a debatable issue. It has been sanctioned by the society of civilized nations. Furthermore, it is absolutely essential to that form of cooperation between street railroad managements and employes which will lead to efficient, economical, and stable operation, and, as a consequence, is to the highest degree of real service to the public."

Mr. Lauck in his oral testimony lays emphasis upon the fact that the Amalgamated does not look upon a local organization of street railway employes, having no outside affiliations, as a union in the sense in which the recognition of the union is laid down as a fundamental principle of street railway labor policy. This point came out in the discussion of the cooperative plan of organization in the Philadelphia Rapid Transit Company under the Mitten management. Mr. Lauck's distinction between a real union and a local organization such as that in Philadelphia is stated in his testimony at page 1881 of the Proceedings, as follows:

"The Chairman: Where you get all the men organized into a society that gives them many benefits and privileges, what would you call it if it is not a union of the men?"

"Mr. Lauck: You might call it a local union; but in the accepted term of unionism it would be called by the labor representative a company union, you might say. On the part of the employes, they would consider it a union. But from the strict standpoint of unions or labor organizations, it would not be considered as such, because, having no national or other affiliations, it would be considered an organization of employes, but not a union in the accepted sense of the term.

"Commissioner Mahon: It would be considered by the labor man as being completely under company direction?"

"Mr. Lauck: Yes.

"The Chairman: That is not so at Philadelphia, is it?"

"Commissioner Mahon: We think so, that is our opinion.

"Mr. Lauck: They would consider it as what they would term in a colloquial sense a company union. All of them are known by that name."

Mr. Lauck is of the opinion that any form of collective bargaining not based on unions is futile; and that local organizations of employes not affiliated with employes in the same business in other communities cannot in the long run be effective. In his opinion "company unions" or committee systems cannot stand because, with the pressure from below urging the committees to present certain things to the management, coupled with the fear that if they do present them they will become "marked men" and incur the displeasure of the management or suffer in their working relations and conditions, they go to pieces between the grinding of the upper and the nether millstones. When asked whether the company can control its employes when the latter have the right to elect their own representatives, by a secret ballot system, Mr. Lauck, at page 1882 of the Proceedings, makes the following statement:

"They cannot control their employes at all. I do not think they can do that, but I think there is not so much danger from the employer or the company controlling its employes under a system of that kind, but from the fact that the employes cannot make any impression on the company, as they have no basis of action. If the company refused to accede to any reasonable request, they have not the basis of strength in the organization to force the company in the way they would if they had a national affiliation, with the financial resources of the national association, and all the strength which would come from the affiliated bodies in other establishments of the same kind.

"The Chairman: They have the right to strike if they choose.

"Mr. Lauck: They could strike, but the strike would be futile because they would not have any means of support beyond their own local funds and would not have the cooperation

of other members in their craft engaged in similar work in other industries, say in street railway industry in other localities, so that the chances would be very much against them as compared with the usual unions, which in the event of an authorized strike would have the support of the national organization, not only as to advice but as to financial resources, strike benefits."

From an examination of the record it does not appear that the labor witnesses proved, or attempted to prove, otherwise than by argument, the superior benefits derived by the employes when organized in unions affiliated with the Amalgamated as compared with benefits derived by employes from informal or strictly local organizations. The fact that the Amalgamated Association has been influential in improving wages, hours and conditions of work in the electric railway industry was rather assumed than proven. Perhaps the most significant fact supporting this assumption, brought out in the testimony, is that the cooperative plan in Philadelphia under stress of war conditions had to be modified so as to enable the employes to get a living wage, and in connection with that modification a new standard was established by agreement between the company and the men to the effect that the wages paid in Philadelphia are to be determined by the average wages paid in Chicago, Cleveland, Detroit and Buffalo, the four cities which at the time of the agreement were supposed to be the best from the standpoint of the men. It is noteworthy that the street railway employes in each of these four cities are unionized. It is claimed, therefore, on the part of the Amalgamated, that the employes of the Philadelphia Rapid Transit Company are now reaping the fruits which were first won by the electric railway employes in these other cities through the activities of the Amalgamated. Nevertheless, the case for union recognition as presented to the Commission was based primarily upon the declarations of policy made by the Federal Government during the war and embodied in the labor clauses of the Peace Treaty rather than upon new and special proofs. As we have seen, Mr. Lauck took the position that union recognition "is no longer a debatable issue."

The second fundamental principle upon which the representatives of labor laid stress was the establishment of a living wage. This principle was also supported by the citation of the labor provisions of the Peace Treaty and by the program of the Federal Government as applied by the National War Labor Board. Upon this point the Treaty states "that labor should not be regarded merely as an article of commerce" and that among the methods and principles deemed to be of special and urgent importance for regulating labor conditions in all industrial communities is "the payment to the employed of a wage adequate to maintain a reasonable standard of living as this is understood in their time and country." The labor program formulated by the Federal Government during the war included the following provisions with respect to the living wage:

"(1) The right of all workers including common laborers to a living wage is hereby declared.

"(2) In fixing wages, minimum rates of pay shall be established which will insure the subsistence of the worker and his family in health and reasonable comfort."

Commenting upon these declarations, Mr. Lauck in his testimony, at pages 1890 and 1891 of the Proceedings, says:

"Another remarkable development in this connection has been that almost without exception all the religious or ecclesiastical organizations of the country and of Great Britain

and Europe have given their sanction to this same principle, and they not only give their sanction, but are practically carrying on educational propaganda and practical measures, have collected funds, and are engaged in the work of giving widespread consideration to this principle, and attempting to realize its practical application in some way.

"So that it might be said that to demand a living wage for the employes of the street railways, as a condition to any reports by the board is a very sound position, not only from the standpoint of public policy of this Government, the standpoint of the public policy as announced by all the leading industrial and commercial nations of the world in the Peace Treaty, but it has received the universal sanction of the churches of all denominations, both Protestant and Catholic churches; it has the sanction of the leading employers of labor in this country, as set forth in the principles enunciated and followed by the National War Labor Board; it is the fundamental economic and political right to which labor is entitled by every ethical and moral consideration; and to deny the motormen and conductors the principle of a living wage, it seems to me, in the face of these announced policies and practices of our own Government, and in the face of the guaranties of all civilized nations in the Peace Treaty, would be more than equivalent to, and more serious than the denial of free speech, the denial of the right of assembly or religious freedom or any other civic right or liberty. In other words, as we shall claim later, we claim this now as a fundamental, economic right to labor which should be embodied in the recommendations of this board for the financial rehabilitation of the industry."

While the Amalgamated did not ask the Commission to fix in specific figures a standard or living wage for electric railway employes, it did produce evidence to the effect that in the pre-war days motormen and conductors were underpaid from the point of view of what is recognized in the labor movement as a living wage; that since the opening of the war their wage increases have at least no more than kept pace with the increase in the cost of living; that, therefore, they are still underpaid; and specifically that in October, 1919, when the evidence was presented, a living wage based on a "minimum comfort budget" for a family of five would be approximately \$2,000 a year, which, figured on the basis of an eight-hour workday and 325 workdays per year would require an hourly wage rate of 77 cents. In this connection it is noteworthy that at the time of the hearings no electric railway in the country was paying as high a rate as this, but that in May, 1920, the Cleveland Railway Company agreed to a new scale of wages with 75 cents per hour as the maximum rate.

In support of the claim that trainmen's wages before the war were not up to a living standard, the Amalgamated produced as witnesses Mr. Arthur Sturgis, an electrical engineer of Boston, who, since 1914, has devoted a great deal of his time to the preparation of statistics for street railway arbitrations, and Professor William F. Ogburn, of Columbia University, an eminent authority on budgetary studies. Mr. Sturgis analyzed the special reports on street and electric railways issued by the Census Bureau for 1902, 1907 and 1912, the advance sheets of the report for 1917, and the street railway statistics for 1918 presented by Mr. James W. Welsh, statistician for the American Electric Railway Association. On the basis of this analysis Mr. Sturgis found that the average yearly wage of conductors and motormen in the different periods mentioned was as follows:

1902	\$606	1917	\$934
1907	655	1918	990
1912	727		

Mr. Lauck in his brief said that "according to the most authoritative students, annual earnings of \$900 by the head of an average household were barely sufficient prior to the war for a minimum of physical subsistence." He cites as authority an investigation made for the Russell Sage Foundation by Dr. Robert

Cort Chapin and published in 1909 under the title "The Standard of Living among Working Men's Families in New York City." From this work the following general conclusions are quoted:

- "1. 'An income under \$800 is not enough to permit the maintenance of a normal standard.
- "2. 'An income of \$900 or over probably permits the maintenance of a normal standard, at least as far as the physical man is concerned.
- "3. 'It seems probable that on an amount ranging from \$800 to \$900, the standards prevailing among Bohemians, Russians, Austrians, and Italians may be maintained, but that it is the exception rather than the rule, when the more expensive standards of the American and kindred nationalities are maintained on this amount.
- "4. 'A comparison of the families by nationalities shows that at almost every point a lower standard of expenditure prevails among the Bohemians, Russians, Austrians, and Italians than among the Americans, Teutons, and Irish. The families of the former group on incomes above \$700 to \$800 begin to save and show a surplus * * * * while families of the other group do not reach the saturation point, so to speak, below an income of \$900 or \$1,000.
- "5. 'The standard of living varies as the two jaws of the vise, wages and prices, contract and relax.'"

From Lauck & Sydenstricker's book, "Conditions of Labor in American Industries (1917)," Mr. Lauck quotes as follows:

"The various recent investigations of budgets of families in different ranges of income appear to indicate quite clearly that the point of adequate subsistence is not reached until an income of about \$800 or \$900 is provided. The percentage of family income spent for food remains practically the same, or is greater, in families with incomes of less than that amount; in families with incomes of \$800 or more, the percentage of income spent for food is found to be proportionately less as income increases, indicating that only then is income sufficient to allow a surplus left from food, rent, etc., to be spent on 'incidentals.'"

At page 1826 of the Proceedings, Mr. Lauck calls Professor Ogburn's attention to Dr. Chapin's conclusions in 1907, and elicits the following testimony with respect to the relation of the average pre-war wage of motormen and conductors to the living wage:

"Mr. Lauck: You remember Dr. Chapin's conclusions in 1907 as to the relations of incomes at that time to the standards of living?"

"Mr. Ogburn: In a general way, yes, I remember that.

"Mr. Lauck: He says an income under \$800 is not enough to permit of the maintenance of a normal standard; is that correct?"

"Mr. Ogburn: Yes; I think it is pretty generally accepted.

"Mr. Lauck: I am talking about before the war, now.

"Mr. Ogburn: Yes.

"Mr. Lauck: And an income of \$900 or a little over permits of the maintenance of a normal standard, at least as far as the physical man is concerned?"

"Mr. Ogburn: What I call the bare subsistence level.

"Mr. Lauck: Before the war?"

"Mr. Ogburn: Yes.

"Mr. Lauck: Mr. Sturgis testified this morning that in 1914 the average annual earnings of the street railway motormen and conductors were \$864; so that on that standard of comparison it would be below a subsistence level, would it not?"

"Mr. Ogburn: Yes, considering that Mr. Chapin's figures are fairly conservative.

"Mr. Lauck: And his figures were made in 1907, seven years before 1914.

"Now, Mr. Sturgis testified this morning, if I remember correctly, that in 1907 the average annual earnings of a motorman and conductor were \$655. Mr. Chapin says, in 1907, that an income under \$800 was not sufficient to permit of the maintenance of a normal standard, so that he would be underfed, underclothed, underhoused and subnormal. Then, in 1914, this figure of \$864, according to Dr. Chapin's standard, would be below the subsistence level, and according to your own standard or the results of your own study at that time?"

"Mr. Ogburn: Yes, Chapin's figure might be a little higher than that. I mean it might be a little over \$900 by 1914 on account of food having gone up.

"Mr. Lauck: There were seven years there that were not provided for.

"Mr. Ogburn: Yes.

"Mr. Lauck: Anyhow, it would indicate that these earnings were entirely inadequate, would it not, according to your conclusions as to the subsistence level?"

"Mr. Ogburn: Well, yes, one would think so."

Mr. Sturgis presented evidence to show that the average maximum hourly rate paid by 120 electric railway companies in January, 1914, was 28 cents, and that the average maximum rate paid to employes of all of the 227 local divisions of the Amalgamated on January 1, 1919, was 41.1 cents. These figures were subsequently brought up to October 5, 1919, when the average was 45.32 cents. This indicated an increase of about 62 per cent in wages as compared with an increase of 75 or 80 per cent in the cost of living during approximately the same period. Referring to the change in the cost of living from June, 1914, to September, 1919, Professor Ogburn, at page 1802 of the Proceedings, says:

"Yes, I usually think of it as between 75 and 80 per cent. It is questionable whether you can figure it to the exact fraction of a per cent, but I would say for the country as a whole from 75 to 80 per cent would be a fairly scientific estimate of the increase."

The evidence seems fully to support the contention of the Amalgamated that wages were not increased by the National War Labor Board, and have not since been increased, enough to put the motormen and conductors in a relatively better position with respect to the cost of living than they were in before the war. This conclusion is also supported indirectly by the testimony of Mr. Leifur Magnusson, an economist employed in the Bureau of Labor Statistics, who appeared before the Commission not as a representative of the Bureau, but as a witness for the Amalgamated. Mr. Magnusson presented a statement showing, on the basis of an eight-hour day, the daily earnings in ninety principal occupations in 1914 and again in 1919, with the percentage of increase in each case. Mr. Magnusson's tabulation is printed in full at pages 49 to 51 of Mr. Lauck's brief. It shows that among the various classes of workmen listed the motormen and conductors on electric railways earned in 1914, on the eight-hour day basis, an average daily wage of \$2.27, and in 1919 an average daily wage of \$3.38, an increase of 48.9 per cent. In 1919 the motormen and conductors were next to the lowest on the list. Below them were the trapper boys engaged in bituminous coal mining in the Hocking Valley district, whose average daily wage was \$2.65. It is noteworthy that in 1914 laborers in arsenals, greasers and couplers in bituminous coal mining, laborers in navy yards, and common laborers in the iron and steel industry all received lower wages than motormen and conductors, while in 1919 they all received higher wages. Of the ninety occupations listed only fifteen showed a smaller percentage increase in wage rates from 1914 to 1919 than the increase in trainmen's wages. In fact, twenty-one of the ninety showed an increase of over 100 per cent as compared with the trainmen's increase of 48.9 per cent. While the relatively greater increase of wages in other occupations does not in itself prove that the increase in trainmen's wages has not been proportionate to the increase in the cost of living, it points in that direction and may be taken as supporting the positive testimony of such witnesses as Mr. Sturgis and Professor Ogburn.

The issue with respect to wages presented by the Amalgamated simmers down to the fundamental questions as to whether or not the principle of a living wage should be established in the electric railway industry and as to what a living wage is under present conditions. On both these points Professor Ogburn's testimony is of great interest and importance. It should be stated that

prior to Professor Ogburn's connection with Columbia University he served as a special agent of the Bureau of Labor Statistics connected with the cost of living investigations, and as director of the cost of living department of the National War Labor Board, and prior to that was a professor in the University of Washington, where, in 1917, he prepared the budget accepted by the board of arbitration in the award to the trainmen employed on the electric railway lines of Seattle. Speaking of the general question of the standard of living and the origin and development of the idea of a minimum or living wage, at pages 1803 and 1804 of the Proceedings, Professor Ogburn says:

"In regard to the question of the standard of living, it has been my custom in connection with the wage adjustments of the War Labor Board to think of the cost of living in quite two separate categories, one being the category of the increase or decrease as the case may be in the cost of living, and that was oftentimes used by the Board in adjusting the increases. However, in some cases it was claimed by parties in dispute or in the arbitration that it would be unfair to adjust wages by the amount of the increased cost of living, although that might be measured fairly satisfactorily, for the reason that in the pre-war period the living as enjoyed by the workingmen's family was inadequate. That was met in a number of disputes and is claimed by the working people quite frequently.

"Well, you see, if that point is raised, it would seem the satisfactory way to meet that is to make some study as to what is an adequate standard of living. That brings up a question, therefore, of a study of levels or standards of living irrespective of any increases, just a static concept of how much does it take to live?

"Now, that question is of course one of immense difficulty in determining. It is one, however, which experts in economic and social sciences have been engaged in studying for a number of years.

"In studying the question of the standard of living they have focussed their attention, I should say, rather largely on what might be called a minimum subsistence level or a bare subsistence level as it is sometimes spoken of. You can very readily see that there will be various levels of living according to the income which a family enjoys. And so one might conceivably study a level at any particular point in the scale. But attention has been focussed, I should say, most upon what is called a bare subsistence level.

"The idea originated a number of years ago on the part of social reformers and statesmen who were interested in what they called setting a minimum. You find, for instance, in the United States that a good many states have set minimum wages in regard to the living of an unmarried woman; and you will find in some of the European countries and particularly Australia and New Zealand that the states have set a minimum standard of living for a family as well as for an unmarried woman.

"These minimum ideas have been considered quite a little by charity organization societies and relief agencies in our larger cities, settlement house workers and so on. The idea seems to be spreading, and according to prediction I would think bids fair to become quite an important point in our national policy. The British Labor movement seems to be very much concerned with this same idea which they phrase as a national minimum, and the platform of their party states it this way: 'That there shall be a line drawn across society below which no family shall be permitted to live.' The idea as we express it in America is sometimes phrased this way, that the minimum standard of living or the minimum bare subsistence level is a level below which when wage earners fall in a particular industry that industry is said to be parasitic; that is to say, the theory or policy of the minimum wage is that the states should not permit an industry to pay less than a living wage. * * * * That has gone into effect so far as unmarried women go, but that is the theory, that the state would be justified in using its authority as a state in forcing an industry to pay these wages or force it to desist. As I say, they have not by use of the state authority applied it in the United States to families.

"That is the general position by which the minimum wage concept comes into our political and social life. Now, a great deal would naturally center around the question of the measurement of this point. That is to say, how can you determine what this point is? Naturally, minimum wage legislation and studies will be successful to the extent that they are able to scientifically determine a point or a standard, and by a point or a standard I mean to set some point in which there is some scientific validity."

Professor Ogburn points out that the determination of the amount of income required for the maintenance of a proper standard of living is measured in various ways. He refers to a study made in Johnstown, Pennsylvania, during

the pre-war period, by the Children's Bureau Department of the Bureau of Labor. This study was subsequently extended to a number of other cities. It showed that in pre-war days in families having an income of \$550 the infant mortality rate was about 150, whereas, in families having an income of \$1,250 the infant mortality rate was only 65. He states that at the time of giving his testimony the equivalent incomes would be about \$950 and \$2,200, respectively. He also refers to malnutrition as a test of the standard of living and cites the study made in the schools of New York City a few years ago in which it was found that approximately 20 per cent of the 100,000 children examined were underfed. He also refers to the results shown by the draft during the war with respect to which the Provost-Marshal reports that of men between 21 and 31 years of age only 70 out of every 100 chosen were accepted as physically qualified for general military duty. He admits that "the economic cause would not account for all disbarments on the draft, because of various physical ailments which may not be due to economic causes," but thinks that perhaps one-half may be attributable to these causes. In that connection he cites a remark credited to Mr. Lloyd George to the effect that "if they had had a better minimum wage in England they would have had a million more men with which to defend the country." He also refers to housing conditions as a criterion of the standard of living; and here again it is largely a matter of the infantile death rate. With respect to diet and "calories" as a criterion, Professor Ogburn says, at page 1807 of the Proceedings:

"There is just one other point on that I might speak of in connection with the question of what are the criteria for determining this particular level of living, and that centers around the question of food. I referred indirectly to it in speaking of malnutrition a while ago; but a diet is considered to be a highly important factor in maintaining a general well-being. Of course, it is essential in what we call existence. The most convenient and common index of the diet value is an energy unit called the calory. In other words, to keep the human machine going, it has to be fed fuel, just as an engine will have to be fed coal to make the machinery turn around; and this food generates these fuel units called the calory.

"The question arises, what should be the supply of this energy value to a man? It has usually been set for a man at moderately hard muscular work as being 3,500 calories per man per day. This is the standard, I believe, set by Atwater, and it is the standard employed, I think, by the Department of Agriculture of the United States Government."

Professor Ogburn points out that there has recently been somewhat of a reaction against the "calory standard" on the ground that food has other values besides that of furnishing energy. He goes on to say that when a diet for a man contains 3,500 calories a day it is on the average assumed to be an adequately balanced diet, although it might be possible to get a proper balance of the various chemicals required by the human system without having so many calories. It is assumed, however, that "the ordinary housewife, not particularly trained in these matters, would probably, on the average, not get an adequately balanced dietary unless she computed it on a basis sufficiently liberal to furnish 3,500 calories per man per day."

In Professor Ogburn's budget studies a family is assumed to consist of a man, his wife and three children. Particular emphasis is laid on certain studies of the Bureau of Labor Statistics from which Professor Ogburn drew the conclusion that at the time he was giving his testimony a proper diet for the average family would involve an expenditure of from \$700 to \$750 a year for food

alone. His testimony on this point is found at page 1808 of the Proceedings, as follows:

"In the study which the Bureau of Labor Statistics has made, they went to considerable pains to get good food figures, and they went to a large cost to get these things analyzed, and this is a point which I am about to mention now, which I think is very important in coming to this question of a satisfactory living standard.

"The Bureau took about 300 dietaries, which yielded 3,500 calories per man per day; that is, they analyzed these dietaries, and then they added up the price of them themselves for the year 1918, approximately.

"They found in 1918 for a family of 3.35—adult male, his wife and children, children being split up in fractions, according to the amount they consumed—that \$575 was required to purchase food for this size family.

"Food has probably increased since that time about 15 per cent, which would bring the cost of 3,500 calories for this size family up to about \$650 or \$660.

"This particular unit of 3.35 is somewhat smaller than the unit customarily used by students for measuring the family. They come nearer using one of 3.8 or 3.9. If you bring it up to that figure, it will bring the cost of an adequate dietary up, then, as found in, say, 12 cities scattered in representative sections of the United States, to between \$700 and \$750 at the present time; and I think that is a figure which is very much worth while considering because of the big importance which food bears in the budget, and which the other items bear in their relation to food.

"I believe the Commission is fairly fortunate in being able to get a figure like this, because if this study had not been made, it is very questionable whether you could have had any such good or accurate figure as this one. I therefore set a good deal of stock by this particular point, that it will take on the average for the United States, in these cities, from \$700 to \$750 for a man, his wife and three children of the conventional age stated.

"Mr. Lauck: That is just for food?"

"Mr. Ogburn: That is just for food."

Professor Ogburn states that in June, 1918, he estimated the "bare subsistence budget" at between \$1,350 and \$1,400 as will appear from the following testimony found at page 1809 of the Proceedings:

"I worked on this for the National War Labor Board in June, 1918, to some extent, and I used about four or five different methods. At that time I set the bare subsistence at * * * between \$1,350 and \$1,400 * * * , and I did it by using this food quotation, this method.

"Then I took three budgets, which are somewhat well recognized, and which authorities have accepted. I took Prof. Chapin's budget made in New York in 1907, a very careful study; I took the New York Board of Estimate budget drawn up by the City Government for its own employes, and I took a budget made by the New York Factory Investigating Commission, a legislative commission. I took each of those budgets, and considering the increases in the cost of living, brought them up to date, so to speak; and, with the exception of one, they came to between \$1,450 and \$1,500. The New York Factory Investigating Commission came to \$1,320 and some odd dollars, but that budget was considerably inadequate in some of the sundries or miscellaneous items. It left out a good many things which a family would have to have in order to live.

"So that I came to the conclusion at that time that what I would call a fair subsistence which would be really a bare physical subsistence—and it would be very conservative, it would not be an exaggeration at all—would, at that time, run between \$1,350 and \$1,400, judged by these four or five different standards."

In view of the increases in the cost of living between June, 1918, and October, 1919, estimated at about 12 per cent, Professor Ogburn, at page 1811 of the Proceedings, says:

"I think you can pretty well substantiate today the fact that it will take between \$1,550 and \$1,600 to maintain the bare subsistence level today. I believe so."

Professor Ogburn calls attention to the fact that below the "bare subsistence level" are "the charity level, being inadequate in sundries, and the pauper level, where one gets in debt and so forth." Above the bare subsistence level is another level which was adopted as the basis for the Seattle trainmen's budget, worked out by Professor Ogburn in 1917, which at that time came to about

\$1,500, and the "minimum comfort budget" which Professor Ogburn worked out for the War Labor Board in June, 1918, which at that time came to about \$1,700. Referring to the standard of living for which these budgets were supposed to provide, Professor Ogburn says, at page 1812 of the Proceedings:

"This budget, which we are now discussing is supposed to delineate a level above what we call the minimum subsistence, and is variously called the minimum health and decency or the minimum comfort or the minimum health and comfort. I shall refer to it as the minimum comfort budget. It is somewhat more liberal in food, although the food in the two budgets does not vary so very much. The rent figure is somewhat more liberal. I particularly set down there a larger item for insurance and savings. That figure of insurance and savings is one very debatable as to what should be set down. I have set down a health figure nearly the same as in the minimum budget. I have given somewhat more in clothing, because it does seem to me that comfort, social position and so on center around rent and clothing."

The following is a general summary of the "minimum comfort budget" upon which the Amalgamated bases its claim for a living wage:

<i>Item</i>	<i>Cost June, 1918</i>	<i>Cost July, 1919</i>
Food	\$625.00	\$723.00
Clothing:		
Man	92.50	101.00
Woman	87.00	94.00
Boy 13 years	57.00	62.50
Girl 8 to 10 years.....	37.52	42.25
Boy 4 to 7 years.....	39.50	44.25
Rent	220.00	240.00
Fuel and Light	75.00	88.00
Insurance and Savings	150.00	150.00
Health	60.00	65.00
Furnishings	50.00	60.00
Education	20.00	20.00
Carfare	55.00	58.00
Organizations (church, labor and others).....	24.00	26.00
Comforts (tobacco, candy, gifts, drinks, etc.).....	43.00	33.00
Recreation	50.00	56.00
Miscellaneous (barber, stamps, cleaning, etc.)....	75.00	78.00
Total	\$1,760.50	\$1,941.00

Some of the minor items are explained more in detail in the analysis of sundries, as follows:

<i>Item</i>	<i>Cost June, 1918</i>	<i>Cost July, 1919</i>
Organizations, labor and others	\$15.00	\$16.00
Education (newspapers, magazines and books)....	20.00	20.00
Church	9.00	10.00
Health (physician, drugs and dentist).....	60.00	65.00
Cleaning and Laundry	25.00	27.00
Tobacco	15.00	16.00
Gifts	8.00	9.00
Candy and Soft Drinks	5.00	8.00
Drinks	15.00	.....
Amusements and Vacation	50.00	56.00
Stamps, barber, stationery, etc.....	15.00	16.00
Exigencies and waste	35.00	35.00

It is noteworthy that the budget-makers were able to hold down the cost of living to the extent of \$15 per annum on account of the total disappearance of "drinks" between June, 1918, and July, 1919. For a car crew this saving would be \$30, which, if divided up among the 166,000 revenue passengers handled by each

crew, on the average, during a year, would amount to three one hundred and sixty-sixths of a cent on the fare. Hooray for Prohibition! Even at that, the item amounts to \$2,000,000, or well on towards half as much as the estimated losses of gross revenues due to the strikes of 1919 on the big systems carrying 75 per cent of the total electric railway traffic of the country. What the fellows will do who were allowed the \$15 a year for drinks, and used it some other way, remains to be seen.

Professor Ogburn explains the "minimum comfort budget" at page 1813 of the Proceedings, as follows:

"Mr. Lauck: Would you explain that budget to the Commission for the reason that we expect to use that budget as a basis for our contention as to the principle of a living wage?"

"Mr. Ogburn: Yes. The theory of a minimum comfort budget is not quite as clearly delineated as the theory of a bare subsistence budget. But one, as I say, thinks of a bare subsistence budget as being a living which all industries ought to pay their working men; at least that is the theory of those who hold to the living wage theory. Whereas, the bare subsistence budget does not necessarily imply that it is an adequate budget or that it is satisfactory to the labor people or that it is even necessarily wholly desirable in a democracy. Whereas, a budget that is somewhat more liberal, I think, comes nearer meeting an actuality.

"Now, the minimum comfort budget is, I think, not wholly a theoretical proposition. That is to say, it is a description of an actual situation, and the fact that it has been received and commented upon rather widely and the fact that there have been various individuals working at this particular level seems to indicate that there is a level which is in considerable demand above what you would call a bare subsistence level."

At page 1819 of the Proceedings, Professor Ogburn goes on to explain particularly the item of \$150 for insurance and savings:

"I did put down in this budget \$150 for insurance and savings, which I may say is considerably larger than the families ever do save or put up even during the campaign of Liberty Loans at this particular level. That is another departure from the actual budget and is a point in making the standard.

"Commissioner Meeke: Is that amount actually above the combined amount for insurance and savings at this level?"

"Mr. Ogburn: Yes.

"Mr. Lauck: What was your idea in doing that, Professor Ogburn?"

"Mr. Ogburn: Perhaps I should have stated this, that what I was doing in these two cases was setting what I conceived to be a standard budget. The question often arises as to whether a standard budget is exactly the same as an actual budget. I figure that it ought to be very nearly the same as an actual budget and not too purely refined; that is to say, there is no question about the fact that humankind smokes, humankind drinks and so on; that humankind expects certain expenditures for recreation. Therefore, you cannot leave these things out. You have to make it fairly approximate and close to the actual expenditure. But I have varied here and there—I have put a little bit more for food and a little bit more for sickness and savings, simply as it would seem to be the concept of what a standard budget should be."

A little further on, at pages 1820 to 1822 of the Proceedings, Professor Ogburn points out that his "Minimum Comfort Budget" is, after all, a very conservative one, and intimates that a little higher budget level would not do the employes any special harm. He says:

"The church item is put down at \$9, which is very near the figure which families of that particular income actually spend. Perhaps it may be a little bit more.

"Mr. Lauck: You have \$24 for church, labor and other organizations, have you not? \$9 of that for church, and the other for labor union dues and societies and so forth?"

"Mr. Ogburn: Yes. I put down \$15 for organizations—labor and other organizations, \$15 a year.

"Commissioner Mahon: That is too low.

"Mr. Ogburn: This was in the summer of 1918. Probably it was very low then.

"Mr. Lauck: The comforts are very conservative, are they not, or very low—\$33 for tobacco, candy, Christmas gifts and everything of that kind?"

"Mr. Ogburn: Yes; considering the fact that if you really look at human nature frankly,

of course that is very low; there is no question about that. I think that when you get into a question of the minimum comfort budget—as the questions of Mr. Lauck have been headed in that direction—you really have to form the conception that there is still another budget level.

"I mean to say that I do not believe that you could look at this budget and think of it as an adequate budget for working people. I mean to say * * * * it is perfectly possible to conceive of another budget level where, if they had a telephone, or if they had a nurse occasionally, when some one was sick in the house, or where they had a somewhat better type of housing, where they took more opportunities in education, and were able to send their children through the high school—we figure that less than 10 per cent get through the high schools—I think you would have to conceive of a budget level as being above this.

"The point I make is that this minimum budget is, strictly speaking, a minimum budget of a certain level, and it is not necessarily designed or set as a maximum budget at all, or perhaps even what the working people would call, necessarily, an adequate budget. It is along the line of those minimum budgets.

"Mr. Lauck: It really seems to provide for food and clothing to keep them warm and, you might say, just removes the spectre of want or the possibility of want from the door, does it?"

"Mr. Ogburn: That is the idea, yes.

"Mr. Lauck: That is, they have some slight hold on the future by savings and insurance; they are adequately clothed so far as comfort is concerned, and fed properly?"

"Mr. Ogburn: Yes.

"Mr. Lauck: But beyond that there is nothing to waste or nothing to develop or expand on?"

"Mr. Ogburn: Yes.

"I would like to introduce one piece of evidence here bearing upon the point I am discussing, which I think is of considerable value in regard to food budgets.

"What we did over at the Bureau of Labor Statistics was to take families of husband and wife and three children with specific incomes, say, \$2,000, \$1,800, \$1,600, \$1,400, \$1,200 and \$1,000, and we analyzed their dietaries and took an average of all their foods which they ate and reduced it to a permanent basis, and analyzed it; and out of about 12 cities, Chicago, Providence, New York, Denver, St. Louis, San Francisco, Seattle, Boston, St. Paul, Minneapolis, New Orleans and Atlanta, we found that, as an average in those cities, when the income is \$2,000—this is in 1918—the purchase of calories was 3,533; that is the actual number of calories purchased when the income was \$2,000.

"Commissioner Meeker: Will you explain that? That is that many calories per adult male?"

"Mr. Ogburn: That many calories per adult male, yes.

* * * * *

"Mr. Ogburn: When the income is \$1,800 the actual number of calories purchased was 3,400.

"At \$1,600 the number of calories purchased was 3,278 average; that is a little over 3,200.

"At \$1,400 the calories purchased were 3,217.

"When the income was \$1,200, for this size family, the calories purchased were 3,015—about 3,000 calories.

"When the income was \$1,000, the food that they purchased yielded 2,935 calories.

"Those, I think, are about as good figures as you will find anywhere in existence bearing upon the calories purchased according to income.

"Therefore, it is only when they get pay over \$1,600 and around \$1,800 or \$2,000 that they actually buy a sufficient number of calories."

At pages 1825 and 1826 of the Proceedings, after stating that he has brought his budget up to date, Professor Ogburn says:

"I figured out that \$1,950 to \$2,000 would be the cost, now, of what I might call the minimum comfort budget.

"When you think of that figure in terms of wages, you think the wages may sound pretty big; but when you think of it in terms of the details of the budget, it really does not buy so very much.

"Mr. Lauck: It is just keeping want from the door, so to speak, is it not?"

"Mr. Ogburn: It is providing minimum comfort, yes."

With regard to the Seattle "minimum comfort" budget of 1917, which is reproduced at pages 68 and 69 of Mr. Lauck's brief, Professor Ogburn testifies at page 1827 of the Proceedings, as follows:

"Mr. Ogburn: Yes, that budget was made somewhat in the following manner: There was trouble on in Seattle in regard to the railway situation out there, and I believe they had

a strike of two or three weeks and they submitted it to a Board of Arbitration, of which Doctor Suzzalo, President of the University, was Chairman. And Doctor Suzzalo asked his department of economics and sociology to make a study of the living costs of motormen's and conductors' families and set a budget in Seattle. That was in 1917, I believe. And Professor Parker and myself and several of the other men conducted an investigation over the city and set this figure of \$1,505. And they discussed this budget, I am told—I was not at the meeting or on the board—but they discussed it a couple of days, I understand, and accepted it without a single change at that time. And that budget there of \$1,505 in Seattle in 1917 was what I conceived to be a minimum comfort budget at that time. That is to say, it compares with my \$1,700 budget somewhat later on.

"Mr. Lauck: To bring it up to date it would be approximately what your minimum comfort budget would be now in terms of money?"

"Mr. Ogburn: Yes.

"Mr. Lauck: Between \$1,900 and \$2,000?"

"Mr. Ogburn: Yes, approximately that.

"Mr. Lauck: The board headed by Doctor Suzzalo of the University of Washington adopted this, and there was a representative of the company on the board?"

"Mr. Ogburn: Yes."

At page 1828 of the Proceedings, we find Professor Ogburn's budget conclusions reiterated as follows:

"Mr. Lauck: So I gather your general conclusions are that wages to be adequate now should be based on an income approximately of \$1,900 to \$2,000 after making allowance for the increased cost of living since these budgetary standards have been worked out.

"Mr. Ogburn: Yes, I would not necessarily say that would be adequate, it might not necessarily be adequate, but it would give them a little bit more than a bare subsistence. It would give them what I call a minimum comfort allowance, it would be a minimum comfort budget.

"Mr. Lauck: You might say it would remove the element of inadequateness and make them barely adequate.

"Mr. Ogburn: Yes, I would say that.

"Mr. Warren: It would give them the equivalent of what \$1,760 would have given them in June a year ago.

"Mr. Ogburn: Yes."

To those who are not entirely familiar with the theory back of the living wage, the question will at once arise: Why should the electric railways pay every motorman and every conductor enough to enable him to support a wife and three children, when as a matter of fact he may be a single man or, if married, have no children? Obviously, a "living wage," based on a standard family budget, may leave one man with thirteen children in the depths of poverty, while it enables another, who happens to be unmarried, to indulge in many luxuries. Why should not the electric railways depend upon the law of supply and demand, and pay what is necessary to attract an adequate number of competent men, and no more? In spite of the claims advanced by the witnesses for labor that the compensation of motormen and conductors prior to the war was too low, it is a matter of common knowledge that the electric railways normally had waiting lists. With respect to reasons for taking a family of five as the standard in figuring out a living wage, Professor Ogburn testifies at page 1831 of the Proceedings:

"The Chairman: Do any of the industries classify wages according to whether a person is married or unmarried or whether he has a family of five, three or two?"

"Commissioner Mahon: Or seven or nine?"

"The Chairman: That is right.

"Mr. Ogburn: No, but the point you are speaking of now is usually looked at in this way. It is quite a job to work out these budgets and plan them out and make careful studies and so forth, and students of social problems who work them out, work them out for a family of five on this basis: That three children are approximately necessary on the average for the survival of the race. That is to say, a man and wife in dying should be succeeded by two individuals, and two children therefore should grow to manhood and womanhood, to the marrying age, and if one allows the chances of death to strike off one during that period

during which they are growing into manhood and womanhood, a man naturally thinks of three children.

"The Chairman: Is that the average family in this country?"

"Mr. Ogburn: Very nearly. Then there is a good deal, of course, which centers around the question of what about men who are not married and so on. It is supposed to be a pretty good policy to encourage early marriage. It is supposed to be rather a desirable thing for the health, welfare, morals and so forth of the community; and it is also considered to be somewhat better for marriage to occur early and have children to be born fairly early. And for all these reasons it would seem unwise for a state, inasmuch as it concerns itself with the minimum race and so on, to set anything lower than a family of five. That at least has been the policy in the past. This has been discussed and worked out after considerable research. Mr. Rountree in a chapter in his recent book¹ has concerned himself with this, and he takes all the various exceptions that arise, where a man has a large family and where a man has a small family, and he figures on starting in and saving and equipping a home, and the pressure of children as they come on and so forth, and he has a good deal to say, and I may say the result of his conclusions particularly justify this size of family."

Later on, when Mr. Lauck himself was on the stand, he was asked as to what would happen to the budget and wages, if the cost of living should go down. In his reply he intimated that the cost of the budget would go down, but as to wages it would be well to have an understanding in advance.² His testimony on this point appears at page 1930 of the Proceedings, as follows:

"The Chairman: Now, if this budget of \$2,000 were adopted would there be any possible way by which that could be reduced if the cost of living should be substantially reduced?"

"Mr. Lauck: It would fluctuate with the cost of living, yes, sir.

"The Chairman: So you believe that the budget should fluctuate with the cost of living?"

"Mr. Lauck: If the cost of living is reduced, the cost of the budget would go down, yes, sir.

"The Chairman: Do you believe that your organization would be perfectly willing to consider a reduction in the budget if the cost of living should go down?"

"Mr. Lauck: Well, I have never consulted with the organization, but, judging from what I know of organizations of this kind, it would have to be understood if you recommended a specific budget that it was flexible with the cost of living in the beginning, otherwise if the wage rate was established I think it would be impossible to reduce it."

If once the principle of the living wage be admitted as properly applicable to electric railway trainmen, the evidence submitted on their behalf with respect to the income required to provide for a minimum comfort budget is pretty convincing. Practically no evidence was offered on behalf of the public or of the American Electric Railway Association to controvert these claims and it cannot be said that the evidence on the budget and the living wage was materially weakened by the cross examination. However, in the statement submitted by Mr. C. J. Joyce on behalf of Mr. Thomas E. Mitten, President of the Philadelphia Rapid Transit Company, reference is made to the growing unfriendliness of the public toward both capital and labor on account of the increasing cost of street railway transportation. At pages 1515 and 1516 of the Proceedings, Mr. Mitten says:

"Frank statement, fair dealing and honest purpose, with patience and perseverance, may be counted in the long run to win the support of a community.

"The public have for so long been befooled and bedeviled that they are now in a mood to question the demands not only of capital but also of labor. This feeling is growing in its intensity as the citizen of inquiring mind discovers that while all about is heard the demand for a living wage, yet all evidence of merchants is to the effect that the wage-earner is now demanding the most expensive class of goods and buying with great prodigality. The owners of automobiles among the wage-earners have become legion, and it would seem that the difficulty now is as much with the higher price of gasoline as with the increased cost of our daily bread."

While the public can have no reason to complain if carpenters, bricklayers, foundrymen and other mechanics rendering skilled service in various occupa-

tions enjoy sufficient affluence to own automobiles, it can hardly be expected to "stand for" wages in the electric railway industry so high as to permit employes to enjoy the luxury of automobiles so that their families will not have to ride in the "poor man's carriage" which they drive. In fact, from the electric railway point of view an employe (other than a general officer) who would own an automobile or even ride in one, might be suspected of disloyalty to his own industry, as he would be giving "aid and comfort to the enemy" by supporting a competitive means of transportation. Doubtless, as the Amalgamated is deeply interested in the financial rehabilitation and prosperity of the electric railways, it would join with the management in disciplining one of its members for such an offense as that.

It is by no means clear that Professor Ogburn's minimum comfort budget would enable a motorman or conductor to support an automobile unless he should choose it as a substitute for a family. It is doubtless true, however, that if it should appear in arbitration proceedings initiated upon the demand of the street railway employes for higher wages that any considerable number of them are already owners of automobiles the public would not be very kindly disposed toward fare increases made necessary in order to establish for the men the principle of a living wage high enough to enable a still larger number of them to get cars of their own. When organized labor takes the position that labor is not a commodity and that wages should not be regulated by the law of supply and demand it must accept also the principle that, along with the living wage for the employes, goes the right of the public to transportation service at a reasonable cost. In this connection it is noteworthy that, on the basis of the 1917 figures, when the average number of revenue passengers handled per car crew was 166,000, a yearly wage of \$2,000 for each trainman would mean 2.41 cents per fare for trainmen's wages as compared with 1.13 cents per fare for the trainmen's wages actually paid in 1917. Of course, if the efficiency of trainmen's labor, in terms of revenue passengers carried, should be greatly increased by the general introduction of the one-man safety car the increase in the cost of transportation service resulting from wage increases would be correspondingly offset.

In this connection I may refer to the experience of the Michigan Railway Company, which operates in four cities having about 50,000 population each, and also operates interurban service connecting these and other cities. As a result of an investigation undertaken in the summer of 1919 to determine the cost of transportation service on this company's lines in the city of Kalamazoo, where the company is operating under a franchise rate schedule which calls for a cash fare of 5 cents and provides for the sale of tickets at the rate of 6 for 25 cents, I recommended that the flat 5-cent fare without tickets be put into effect and that the system be completely equipped with one-man safety cars. The company insisted that a higher fare was necessary and finally an agreement was made with the City Commission to the effect that a straight 7-cent fare should be permitted during the remaining three years of the life of the franchise, and that one-man safety cars should be immediately installed. This agreement was submitted to the electors, and, on account of the combined opposition to the one-man cars and the 7-cent fare, failed to receive the necessary number of votes to make it

effective. Later on, the company's employes demanded radical increases in wages and the company stated that the granting of the men's demands would mean a 10-cent fare. The Kalamazoo Gazette of May, 20, 1920, reports that in the arbitration proceeding between the company and its men "many of the employes on the stand admitted to owning automobiles." The arbitration board, by unanimous vote, awarded the trainmen on the city lines an increase from a minimum of 40 cents and a maximum of 42 cents to a minimum of 60 cents and a maximum of 62 cents. The men had asked for a scale running from 75 cents to 80 cents. On the interurban lines the scale awarded was from 65 cents to 70 cents, instead of the old scale of 40 cents to 48 cents and the scale demanded of from 80 cents to 90 cents.

It is very probable that injustice may be done to electric railway employes by virtue of the publicity given to statements such as those quoted from Mr. Mitten and from the Kalamazoo Gazette. It is quite possible that the automobile standard of living displayed by certain street railway employes is due in some cases, to financial prosperity not connected with the electric railway business, and, in other cases, to the same causes that are occasionally effective in enabling policemen to show signs of wealth not easily accounted for. Such exceptional cases do not disprove the soundness of the general demand for a living wage, but unless fully explained they will surely tend to create an adverse public opinion which is likely to be very damaging to the employes. It will be remembered that in the summer of 1919 an increase of wages was awarded to the trainmen of the Boston Elevated Railway system, bringing the maximum compensation on the surface lines up to 60 cents an hour and for motormen on the rapid transit lines up to 62 cents an hour. This was one of several awards to which special reference was made by a number of witnesses before the Commission as indicating the possibility that future increases in trainmen's wages were likely to become a more important and troublesome factor than ever, both from the point of view of the financial condition of the companies and from the point of view of the public with respect to fare increases. Recently, the union of motormen and conductors on the Boston lines decided to apply for an increase in wages from a maximum of 60 cents an hour to a maximum of 95 cents an hour. At the time, it was said that the new schedule, if granted, would increase the annual payroll about \$4,500,000. Meantime, the Boston Elevated Railway, with its 10-cent fare, had been skimming along with a narrow margin of surplus above the cost of service as defined by the special act under which the system is being operated by public trustees. The men's demands were referred to a board of arbitration, and under date of May 4, 1920, as will appear from the Electric Railway Journal of May 15, Mayor A. J. Peters made a direct appeal to Mr. H. Ware Barnum, general counsel for the company and its representative on the arbitration board, strongly urging that no increase be granted to the street railway employes at the present time for reasons set forth in detail. In this letter, referring to the predominance of the public interest, Mayor Peters says:

"I believe it may be safely said that the public interest is predominant in industrial disputes, especially in the case of public utilities, and it is my duty as Mayor to defend the public interest. This observation is more readily applicable to the case at hand, for any deficit in the operation of the elevated must be met by the cities and towns which it serves.

The demands of the carmen cannot, therefore, be considered as an isolated unit; they must rather be treated as only a part of a question in its relation to the whole. Increases in compensation to motormen and conductors in the elevated system at the present time will certainly react most unfavorably, not only on the industrial situation in Boston, but on the citizens as a unit."

Mr. Peters makes comparisons between the wages of certain employes of the City of Boston, particularly the firemen and policemen, and the compensation of motormen and conductors on the Boston Elevated Railway system. He says:

"Both in the police and fire departments privates are on the same salary basis. They enter the service at \$1,400 a year and progress \$100 a year for four years until they reach the maximum of \$1,800. The motormen and conductors, on the other hand, need work only one year before the maximum is reached. Therefore, on a daily wage basis we find the salary schedule over a period of four years as follows:

	<i>Police and Firemen</i>	<i>Motormen and Conductors</i>
First year	\$3.83	\$4—\$4.40
Second year	4.11	4.80
Third year	4.38	4.80
Fourth year	4.66	4.80
Fifth year and after.....	4.93	4.80

"The police receive one day off in eight and they receive no overtime. Firemen receive one day off in three, and it should be remembered that practically all of the two days they are on duty must be spent at the station house. Both receive two weeks' vacation without loss of pay.

"I believe, and I think it is generally admitted, that the firemen and police are receiving a fair compensation for the work performed. I have no hesitation in stating most emphatically that I believe it is the opinion of the majority of our citizens, and I believe this opinion is sound, that the duties and the responsibilities of the firemen and police are greater than those of the motormen and conductors, and without any reflection on the elevated's carmen. I think it may fairly be admitted that the police and fire departments demand a higher average of competency than is required of the motormen and conductors.

"The conclusion is obvious: The firemen and police are receiving a fair compensation for the work performed; their responsibilities are greater than those of the conductors and motormen, the police and fire departments requiring a higher average of competency; therefore, any increase in the salary of carmen which would automatically yield them a higher salary than the police and firemen is not only unwarranted, but it would work an injustice to certain municipal employes."

Mayor Peters goes on to say that from January, 1910, to July, 1919, the hourly wage rate of motormen and conductors was increased from 23 cents to 60 cents and states that "certainly no corresponding increase has been granted to other public employes." He refers to the financial condition of the Boston Elevated Railway system and intimates that the conductors and motormen have an important part to play in increasing the earning capacity of the system. On this point he says:

"The Boston Elevated is not in what could be termed a prosperous condition. I believe I voice the sentiments of a great majority of our citizens when I say that it would be most unmoral to grant any increase to the employes of the elevated, were such an increase by any possibility to cause a deficit in the elevated's finances. Under such conditions the primary consideration is the great public.

"The elevated carmen are at the present time receiving a good wage, and, I say this only after the most mature deliberation, they should not receive any additional compensation until they have shown themselves worth more by causing the elevated to show increased earning capacity. They must not forget that they are part and parcel of the elevated system. They have it in their power to increase or decrease the earning capacity of the company through an improved service to the public. Until they give the public a service which enables the elevated to show a greater earning power, they are not entitled to a higher wage, and not until that time should they be given increased compensation.

"This is a doctrine which I believe has been too much dis-regarded in the past, and it cannot be overestimated at the present time."

Mayor Peters takes the position that the members of the arbitration board are "invested with a public trust" and that their decision will be made "purely in the interest of the public, for after all, the best interest of the public as a whole is the only insurance of the welfare of individual groups of employes." Without expressing any opinion as to the sufficiency of the wages paid to policemen and firemen in the City of Boston, or the sufficiency of the wages paid to the Boston Elevated Railway employes under the 1919 scale, we can at least see that Mayor Peters' protest represents a serious public reaction against the demands of labor in the electric railway industry when those demands become so great as to threaten to put the industry itself on the "charity level" or the "pauper level." Mayor Peters' protest does not solve the problem of the living wage, but it surely is a signal of trouble ahead in electric railway wage disputes.

The Amalgamated represents primarily the motormen and conductors, but, in response to questions by Chairman Elmquist, Mr. Lauck made it clear that the principle of the living wage as advocated by the Amalgamated is intended to apply to all classes of adult labor connected with the industry. At page 1948 of the Proceedings, we find the following:

"The Chairman: Would you have that wage apply to organized as well as unorganized labor in the railroad service?"

"Mr. Lauck: We are speaking in this case of motormen and conductors, but that ought to be the wage applicable to any man or woman of mature years; of course, a man primarily, but the conception of a living wage should apply to any class of employes who are mature and adult, you might say, in the employ of the company.

"The Chairman: Should the same wage be paid to women as to men for the same class of work?"

"Mr. Lauck: Yes, that is a supplemental principle which is generally acknowledged and has been during the war and has been embodied in the Peace Treaty also, of equal pay for women as for men."

The third main point upon which Mr. Lauck laid particular emphasis in presenting the case for the Amalgamated was the eight-hour workday. Here, again, he cited the Peace Treaty and the rules applied by the National War Labor Board. The Peace Treaty enumerates among the methods and principles deemed to be of special and urgent importance "the adoption of an eight-hour day or a forty-eight hour week as the standard to be aimed at where it has not already been attained," and the industrial principles laid down by the Federal government during the war include the following:

"The basic eight-hour day is recognized as applying in all cases in which existing law requires it. In all other cases the question of hours of labor shall be settled with due regard to governmental necessities and the welfare, health and proper comfort of the workers."

In his brief, Mr. Lauck quotes from President Wilson's remarks in support of the Adamson law passed in 1916 to establish the eight-hour day on the steam railroads of the country, but no direct testimony was offered in support of the eight-hour day except the testimony of Mr. Lauck himself, who, after referring to the authorities just mentioned, expressed, at page 1898 of the Proceedings, the belief of the employes "that it is a measure which is not only on economic grounds of production, but also on the larger grounds of the general public welfare, sanctioned by the enlightened opinion of the world."

Testimony was given by Mr. Carey Ferguson, business agent of the Detroit local division of the Amalgamated, and by Mr. William M. Rea, financial secre-

tary of the Cleveland division of the Amalgamated, with respect to the working schedules and the "spread" of the trainman's day on the Detroit and Cleveland systems. These witnesses brought out the fact that, on account of the peculiar characteristics of the street railway business resulting from the great fluctuations in the volume of travel at different hours of the day and night, conductors and motormen, in many cases, have to be on call for a much larger number of hours than the actual hours of work for which they receive compensation. These witnesses made it perfectly clear that the trainmen have a vital interest in the arrangement of the schedules and "runs." Mr. Ferguson explained in considerable detail the distribution of the runs on the city lines of the Detroit United Railway as presented in an arbitration proceeding in 1917, when the average time for which the platform men received pay was 9 hours and 28 minutes. Out of a total of 1,639, there were 605 straight runs, 792 two-piece runs, and 242 three-piece runs. In discussing street railway schedules, the outside time is the time within which an employe completes his day's work. In the case of a straight run the outside time is identical with the pay time, but in the case of two-piece and three-piece runs the outside time is much greater than the pay time. For example, a man may start a run at 6 o'clock in the morning and work until 11 o'clock in the forenoon, and then go on again at 2 o'clock in the afternoon and finish his day's work at 6:30 in the evening. In that case his outside time would be 12½ hours, while his pay time would be 9½ hours. Mr. Ferguson showed that on 1,035 of the 1,639 Detroit runs the day's work was completed within 12½ hours; 269 runs were completed in between 12½ and 14 hours; 150 runs in between 14 and 15 hours; 84 runs in between 15 and 16 hours; 54 runs in between 16 and 17 hours; 46 runs in between 17 and 18 hours, leaving 1 run that was completed in between 18 and 18½ hours. Mr. Ferguson called attention to cases where the men were relieved at 8:34, 8:39, 8:51 and 8:59 in the morning to go to dinner. At page 1740 of the Proceedings we find the following testimony:

"The Chairman: Is it possible to rearrange your schedule so that all the men can be relieved at certain times?"

"Mr. Ferguson: We do not expect that all men can be relieved at a certain time. That is out of the question. Their contention in that respect is that they should be relieved—providing they are going to be compelled to operate a run in which a dinner hour is provided, that is, a run other than what is known as a straight run—that the dinner hour should be somewhere near the dinner time."

That similar conditions prevail in Cleveland was brought out by Mr. Rea, who testified in detail as to the arrangement of runs on the principal car lines of the Cleveland Railway system. For example, he showed that on the St. Clair Avenue line, in effect in May, 1919, there were 6 night carmen who completed their day's work within 8 hours; 4 men who completed their day's work within from 9 to 10 hours; 1 within 12 hours; 26 within from 12 to 12½ hours; 110 from 12½ to 14 hours; 22 within from 14 to 15 hours; 6 within from 15 to 16 hours; 12 within from 17 to 18 hours, and 16 within from 18 to 19 hours. Mr. Rea explained that under the terms of the trainmen's contract with the Cleveland Railway Company every man was guaranteed a minimum of 5 hours pay. He pointed out that on the Superior Avenue schedule, for example, there were 22

men working for 5 hours pay per day, or a total of 110 hours for which they received compensation, although it took them an aggregate of 259 hours to complete their day's work. Referring to the Euclid Avenue schedule, Mr. Rea testified that the average outside time required by the men for the completion of their day's work was 13 hours and 15 minutes; that the average time paid for was 9 hours and 39 minutes, leaving 3 hours and 36 minutes as the average time lost; while on the Woodland Avenue line, as another example, the average time lost per man was 4 hours and 44 minutes.

Commissioner Mahon stated that the schedule conditions described as existing in Detroit and Cleveland were fairly typical of conditions generally prevailing in the big cities other than Chicago and Boston, where the eight-hour day has been established. It is also worthy of note that the municipal railways of San Francisco are operated on the basis of an eight-hour day. With respect to conditions in Seattle, Mr. Thomas F. Murphine, Superintendent of the Department of Public Utilities during 1919, in his report for that year, makes the following statement about wages, hours and conditions of work on the Seattle Municipal Railway lines:

"The wages of the railway employes have been increased approximately 33 per cent, and at the present time our City Railway employes are being paid a higher wage than is paid on any surface street railway line in the world. Their working conditions have been improved to a point where it can be asserted, without fear of contradiction, that they have the best working conditions of any railway employes in the world. Their working day has been standardized to eight hours, and while we pay time and a half for overtime, the overtime amounts to but approximately one per cent. All those who wish it are allowed one day off in any eight days. Fifteen minutes' time is allowed and paid them for reporting accidents. Fifty cents per day additional is allowed trainmen for instructing students. Fifty-seven per cent of the runs are what is known as straight runs."

Clearly, the eight-hour day as demanded by the Amalgamated has significance in two directions: First, with respect to the economical distribution and use of labor power; and second, with respect to the rate of wages to be paid.

The problem of so distributing the runs that the service will be taken care of properly while at the same time every trainman gets an eight-hour workday without loss of time to himself or waste of his time for the utility is by no means an easy one under the operating conditions that prevail in large cities with big rush-hour traffic.

If it be assumed that each trainman works 325 days in a year—and that is the figure used by the labor witnesses—it will take a wage of \$6.15 per day to produce the income of \$2,000 per year required, in Professor Ogburn's opinion, for the minimum comfort budget. This means, on the basis of an eight-hour day, an hourly wage of 77 cents. If, on the other hand, a man works 9½ hours a day, this means an hourly wage of only 65 cents. It will be seen, therefore, that the adoption of the eight-hour workday, coupled with the living wage, means an increase of 12 cents per hour, or more than 18 per cent in the labor wage rate as compared with the compensation required to produce a living wage where the length of the working day is approximately identical with the average day now worked on the Detroit and Cleveland lines. Unless it can be shown that the efficiency of labor in the production of street railway service or in the collection of street railway revenues will be increased by the substitution of 8 hours for 9½ hours as the standard or average working day, it is clear that the general

adoption of the eight-hour day in the electric railway business would mean a very substantial increase in the labor cost of local transportation.

At pages 1591 and 1592 of the Proceedings, Mr. Lauck reiterates his view that the principle of the living wage should apply not only to the motormen and conductors but to all street railway employes, as will be seen from the following testimony:

"The Chairman: Then you believe that the stenographers and the clerks and all the employes in the street railroad service of mature age should have at least \$166 a month for an eight-hour day?"

"Mr. Lauck: I think that is a fundamental industrial right which they should have, and I think that the opinion of the world, the universally enlightened opinion of the world, would support that; that, growing out of the war, has come the conclusion on the part of a large part of the public, as well as on the part of the workers, that if we are going to have any measure of economic democracy at all, the fundamental, inalienable, you might say self-evident—to use a principle of the Declaration of Independence—right of the worker is to a living wage; and if any industry does not pay a living wage, it is parasitic and should be eliminated. In other words, that industry exists for the common good and not for the deterioration of the working classes."

Mr. Lauck stated that the employes were "anxious to have the industry rehabilitated and made prosperous," and that they were "desirous of having the public protected." He insisted, however, on behalf of the employes, and laid great emphasis upon this contention, that any reconstructive policy undertaken for the rehabilitation of the industry "must be based upon and accept, as a fundamental preliminary, the rights of labor, as accepted by all civilized and leading industrial nations in the Treaty of Peace with Germany, and the principles which have been accepted and proclaimed by our own Government as those which should govern the relations between employers and employes." In addition to "union recognition," "the payment of a living wage," and "the adoption of an eight-hour day," he cited four additional points from the Treaty of Peace, namely: First, that the guiding principle in the relations between capital and labor should be that "Labor is not a commodity"; second, the acceptance of a weekly rest period, preferably the Sabbath Day; third, the abolition of child labor and the imposition of such restrictions on the labor of women and minors as will assure their proper physical development; and fourth, equal pay for equal work without discrimination between the sexes. He maintained that the recognition of this labor program should go along *pari passu* with the recognition of the right of capital to security and a fair return. When asked whether the granting of the demands of labor might not so increase the cost of service as to deter people from using the street cars, Mr. Lauck expressed the opinion that the public would be willing to pay what the service cost, either through the fares or through subsidies from taxation. His testimony on this point is found at page 1954 of the Proceedings, as follows:

"The Chairman: In your consideration of this subject has it occurred to you that the adoption of this standard might so greatly increase the cartfare as to largely reduce the riding habit and thus in the long run to accomplish a very great injury to men employed in the service?"

"Mr. Lauck: I do not see how that could work out. I think that is not a sound conclusion. * * * * Our idea is that the public interest is predominant, and the public is going to protect fully and guarantee the rights of capital. We think that labor has certain fundamental rights, like capital has the right to a fair return and labor has the right to a living wage. We think the public has accepted that principle, and we know it is the policy of some of the leading nations of the world already in a practical way. We believe what-

ever the cost of that may be to the public, whatever it might be, that the public is willing to pay for that. And if it would result in an excessive fare, the public might meet that in the way of car riding by remission of taxes or by granting of some form of financial relief or otherwise to the company.

"The Chairman: Well, the evidence presented here seems to indicate that in all cases where fares are increased competition from jitney service and other sources is stimulated. Now, if the fare through the adoption of your plan should be largely increased, would it not have a tendency to greatly increase the amount of automobiles used in jitney service?"

"Mr. Lauck: I think so, but that it would have any significance I do not think, for this reason, that the public supports hospitals and the patients do not pay for the cost of the maintenance of those hospitals, but the public has decided that the well-being of the community demands that certain institutions of this kind be maintained, hospitals and similar institutions. Their receipts are less than their expenditures, and the public meets the deficit. The public—"

"The Chairman: Then you meet the situation by saying that a street car fare should be one to encourage the riding habit, and the public should pay the deficit out of taxation?"

"Mr. Lauck: Well, my point of view is that the public will consider that; if it thinks it is better for the people to ride and they will not ride at a higher fare, the public will take proper measures to give the financial assistance necessary to let them ride."

Mr. Lauck was very emphatic in the opinion that labor ought not to "sacrifice" itself in any way in order either to conserve low fares or to keep the electric railway industry alive. On this point he speaks at page 1955 of the Proceedings:

"Commissioner Mahon: Mr. Lauck, you do not believe that labor should pay a sacrifice to keep street cars going, do you?"

"Mr. Lauck: No, sir. I think there is a great deal too much tendency—that is what I was attempting to bring out—to lay stress upon the sacred right of capital to a fair return. We do not dispute that, of course. That has been brought up to a condition of social usage and so forth.

"Commissioner Meeker: It is part of the Constitution, too.

"Mr. Lauck: It is part of the Constitution, but we think now under this new development, under the war, that we are going to have industrial democracy in the right sense of the words that there are certain rights of labor, and one of those is the right to a living wage, irrespective of what the cost may be or what the effect may be, and we believe the public will afford it.

"Commissioner Mahon: You do not believe if modern inventions come along and displace the street railway by something that is more convenient and beneficial to the public that labor should sacrifice in the way of a low wage to conserve low fares and keep this industry, do you?"

"Mr. Lauck: Absolutely not, and I do not think the public would expect labor to do that."

Further on, in response to questions by Commissioner Gadsden, Mr. Lauck admits that the immediate and arbitrary application of the principles for which labor contends might result in the collapse of the electric railway industry, but takes the position that these principles are to be embodied as a fundamental part of the permanent policy of rehabilitation, which he assumes that the Commission will recommend. His testimony on this point is found at pages 1955 and 1956 of the Proceedings:

"Commissioner Gadsden: Mr. Lauck, if I get your position correctly, it is that this standard of living that you have described is a standard which you think the public should work towards?"

"Mr. Lauck: Yes, sir.

"Commissioner Gadsden: Not necessarily that it is going to be adopted tomorrow or the next day or next month, but you think it ought to be kept in view and adjustments made from time to time in the hope of reaching that standard at a proper time. Is that about your thought?"

"Mr. Lauck: Well, I would not make it quite that indefinite. I should think it ought to be immediately, so far as realizable, put into effect. I have distinctly brought out the point of view, in speaking and in our brief, that we wish the Commission to recommend or sanction this principle and the definite amount would be worked out between the organization and the company or any adjustment agencies that would be created as the result of your recommendations or other agencies. We think that—"

"Commissioner Gadsden: What I had in mind was this—that if the standards which you are advocating were put into effect immediately or in the near future they would anticipate perhaps by a great many years the adjustments of the relations between the companies and the public, because we can hardly suppose that the relations between the companies and the public can be worked out in a year or two years; it will take a long time. Now, if these readjustments of the labor standards are put into effect in advance of that, do you not think that you are going to precipitate a much greater crisis in the industry than you have today?"

"Mr. Lauck: I think if you arbitrarily and immediately apply them, it would lead to a great dislocation and the utter collapse, perhaps, of the industry.

"Commissioner Gadsden: And probably defeat its purpose, because some roads would have to go out of business and labor would lose its employment.

"Mr. Lauck: But the point is this. We have assumed that the Commission would recommend a permanent policy to rehabilitate the street railways and to work out these relations with the public, and as a part of that policy there should be the sanction of these principles, and as this was worked out these principles would be put into effect."

Particular attention should, perhaps, be given to Mr. Lauck's statement at page 1894 of the Proceedings, where he warns against measures "for immediate relief" that do not take into consideration a complete constructive program. He says:

"We think that any measure for immediate relief should be conditioned upon whatever the final recommendations of the Commission would be, otherwise it might devolve to the detriment of the public or the employes. In other words, if there were temporary relief it might perpetuate the past evils to the management or the employes or the public, and it seems that the evidence tends to show that there should be a complete constructive program outlined by the Commission."

Mr. Lauck was questioned rather closely by Commissioner Wehle as to the attitude of the unions in the electric railway industry toward bringing about "a greater effectualization of their efforts for the company," or, in other words, as to the interest taken by them in their own productiveness. In Mr. Lauck's opinion, the acceptance of the principles put forward on behalf of the Amalgamated would be the very thing to bring about the desired cooperation and increased productiveness of labor. His testimony, at pages 1958 and 1959 of the Proceedings, is as follows:

"Commissioner Wehle: Is it your opinion that in general in organized labor the workers should be brought to take an interest in their own productiveness?"

"Mr. Lauck: Undoubtedly.

"Commissioner Wehle: How would you propose to bring that about?"

"Mr. Lauck: Fundamentally, I would bring it about by exactly what we are advocating here: A basic equitable participation in the output of the industry and the granting of proper hours and proper conditions of work.

"Commissioner Wehle: Now, assuming that you have the equitable basis and proper hours and conditions of work and have those fundamental conditions that you say are a prerequisite to bringing about the state of mind, what then would you say as to the methods or proper policy or the principles that should be adopted by organized labor with reference to the effectiveness of its own efforts?"

"Mr. Lauck: I think there should be the fullest cooperation on the part of organized labor and every effort on the part of the managerial end of the business to reduce costs or increase output per dollar of outlay for labor and the fullest cooperation. I think you would have it. But you have a situation now where the cooperation of labor will result in the absorption of its efficiency, and they do not think they have a show to get it."

When pressed still further for some assurance that organized labor would, in fact, respond to the need for greater productiveness, if the demands of the Amalgamated were fully met, Mr. Lauck says at page 1965 of the Proceedings:

"I have only stated so far that I think it would realize the maximum effectiveness. I think I could probably make it more explicit on the other side by saying that the management and the public would have every right to expect and demand and insist that there should be the fullest measure of production and cooperation from labor. Would that answer

it—that it would be an essential duty and responsibility on labor, with the realization of its rights? I did not entirely grasp your question at the beginning, but I think it would be an absolute duty of labor to fulfill its obligations by realizing maximum production."

With respect to the extent to which the productivity of labor in the street railway industry lies, so to speak, within the discretion of the employes, Mr. Lauck testifies at page 1967 of the Proceedings in response to questions by Commissioner Sweet:

"Commissioner Sweet: Laying aside other industries, is it a fact that the productivity, meaning by that term the success, to a certain extent, of a street railroad company can be influenced for good or ill by the conduct of motormen and conductors?"

"Mr. Lauck: Oh, absolutely; I should think so.

"Commissioner Sweet: Could a motorman or conductor, without being dishonest or breaking any rules that would necessitate his discharge—is there a range in connection with courtesy and efforts to get business and all that sort of thing within which by extra effort on his part he could held the business?"

"Mr. Lauck: Undoubtedly, to a very great extent.

"Commissioner Sweet: Do you think it would be a good plan to give him the benefit of some degree of benefits of that kind and make it an object for him to do it?"

"Mr. Lauck: I think so. I think it would stimulate his interest and productivity; in other words, he would have the welfare of the institution at heart and would strive, as is claimed in Philadelphia, for instance, that—

"Commissioner Sweet: Then I take it that your position, Mr. Lauck, is that a man who occupies one of these positions as motorman or conductor on a street railroad company ought to receive a living wage anyway?"

"Mr. Lauck: Yes.

"Commissioner Sweet: One that would provide ordinary proper comfort?"

"Mr. Lauck: Yes.

"Commissioner Sweet: And that it might also have a stimulating effect and be of some value to let him participate in what, over and above that, might be acquired due partly at least to his extra efforts in the direction of courtesy and business ability?"

"Mr. Lauck: Yes, and undoubtedly it would be very advantageous to the industry and to the public, and if you could work that out so it could be a joint effort on the part of the management and subordinates and bring about the best results, it would be the ideal condition to attain.

"Commissioner Sweet: That would help along the spirit and increase the spirit of co-operation.

"Mr. Lauck: Undoubtedly, yes."

I have reviewed the Amalgamated's positive program so far as it relates to the demands of labor. Preliminary to the presentation of this program, evidence was introduced on behalf of the employes to show, first, that the increases in the wages of motormen and conductors during the war period up to 1918 were in no degree responsible for the financial difficulties of the electric railway industry, and second, to show that those difficulties were directly traceable to past financial mismanagement.

For the establishment of the first of these two points dependence was chiefly placed upon the testimony of Mr. Arthur Sturgis, to whom I have already referred. Mr. Sturgis found that the increase from 1902 to 1917 in the average yearly wage of conductors and motormen amounted to 54 per cent, as compared with increases of 56 per cent in the average yearly salary of managers and superintendents and 78 per cent in the average yearly salary of general officers. He figured out that if the trainmen had received the same percentage increase as the general officers their wage in 1917 would have been \$1,080 instead of \$934, or 15 per cent more than they actually got. He also figured out that on this basis the average motorman and conductor employed continuously from 1902 to 1917 had lost in the aggregate \$1,805 as compared with what he would have received if his wages had been increased from time to time in the same proportion as the

general officers' salaries were increased. Mr. Sturgis figured that the electric railway companies had saved off the trainmen during this period of 15 years approximately \$200,000,000 in the way indicated. He also showed that the number of conductors and motormen employed as compared with the total number of employes decreased; that in 1917 only 136,000 trainmen were employed, whereas, if the number of trainmen had kept pace with the number of other employes the electric railways in 1917 would have had 209,000 motormen and conductors. He did not contend that additional conductors and motormen should have been employed or that other employes should be discharged to restore the ratio as it existed in 1902. Upon this point his testimony, at page 1777 of the Proceedings, is as follows:

"I do not say that either of those two is possible or desirable. It is not, but that is what would have to be done in order to restore that ratio.

"That curve is also a measure of efficiency, not direct, not absolute efficiency, but relative efficiency, because the conductors and motormen in 1917, as compared to those in 1902, are doing the work of 209,000 men with only 136,000 men. In other words, their efficiency has increased 54 per cent as compared to the other employes.

"Mr. Lauck: You would be willing to concede there, would you not, to be perfectly frank, that this may be brought about by a better capital equipment, or by outlays of capital there might be larger cars, or a larger number of passengers per car mile made possible by added capital investment, to be perfectly frank about it?

"Mr. Sturgis: It would be possible also by addition of trailer cars and one-man cars.

"Mr. Lauck: Yes.

"Mr. Sturgis: It would also be brought about this way. It is possible that the companies have felt the necessity of analyzing their costs more and have increased the number of their office force, as they have very largely, their clerks."

Mr. Sturgis also showed that the number of revenue passengers handled per car crew increased from 118,000 in 1902 to 166,000 in 1917, or approximately 40 per cent, notwithstanding the fact that the average number of hours worked decreased somewhat during that period. On this point, in response to questions from Commissioner Gadsden, Mr. Sturgis admitted that the figures indicated an increase in the general efficiency of electric railway management, but insisted that this increase in efficiency resulted from the increased efficiency of the trainmen. The testimony on this point is found at pages 1782 and 1783 of the Proceedings, as follows:

"Commissioner Gadsden: Mr. Sturgis, right there, without reference to the relative merits of this chart you have prepared insofar as motormen and conductors are concerned, looking at the industry as a whole from the standpoint of the public, this chart would seem to indicate that the electric railway industry had increased in efficiency; that is, handling more passengers?

"Mr. Sturgis: Handling more passengers per car?

"Commissioner Gadsden: Yes, at a lower ratio of expense?

"Mr. Sturgis: Well, that in itself would tend to lower the ratio of expense, yes.

"Commissioner Gadsden: Yes. Irrespective of what quarrels there may be between the management as to the division of that, it would seem to prove that the industry, as an industry, has been working out for itself some very substantial efficiencies, would it not?

"Mr. Sturgis: These curves show essentially the same thing as was shown by the curves introduced by Mr. Welsh.

"Commissioner Gadsden: Yes. I wanted to bring that out for the benefit of the Commission. While we may quarrel as to whether one class got their proper share, as an industry these charts seem to go a long way toward establishing the fact that we have been increasing in efficiency, have been rendering more service to the public; isn't that true?

"Mr. Sturgis: Yes, I think so.

"Commissioner Gadsden: And, of course, from the standpoint of this Commission, that is a very important fact, because what we are trying to bring before the public is, if this industry needs relief, we must be able to show that it has itself been endeavoring to work out efficient operation.

"Mr. Sturgis: Yes. I am trying to bring out that same fact that Mr. Welsh brought out, but I am going a little bit further than he did by claiming that that efficiency is the result of the motormen and conductors.

"Commissioner Gadsden: Yes, I appreciate that.

"Mr. Sturgis: I do not mean to say that motormen and conductors went out and drummed up trade for their cars. They could not do that, but their increase, the increase in the efficiency of the motormen and the conductors, resulted in an increase in efficiency of the companies.

"Mr. Lauck: You are willing to concede further, are you not, Mr. Sturgis, that this efficiency might have been made possible by added capital investment on the part of the company in heavier equipment, but that if the wages were increased it had a practical effect in not increasing labor costs on the part of the company for motormen and conductors; in other words, your main idea is to show, is it not, that as a result of this efficiency, wherever emanating, the wage increases have not resulted in higher labor cost to the company commensurate with the increase in the wage rate?

"Mr. Sturgis: Yes, that is just it, Mr. Lauck."

Mr. Sturgis made another comparison to show that the outlay for trainmen's wages had not increased as rapidly as other operating expenses. He presented figures showing the amount left from the average revenue per revenue passenger after the payment of trainmen's wages, and also the amount left after paying all other operating expenses. These figures are given at page 1784 of the Proceedings. They are as follows:

Year	Amount of Revenue Per Revenue Passenger Left After Paying	
	Trainmen's Wages	All Operating Expenses
1902.....	4.22c	2.28c
1907.....	4.40c	2.11c
1912.....	4.70c	2.39c
1917.....	4.59c	2.03c
1918.....	4.83c	1.74c

Mr. Sturgis admitted that the companies' margin of safety "has decreased very much," but his testimony tended to show that this decrease was not due to any appreciable extent to increases in trainmen's wages. With respect to this he testifies, at pages 1784 and 1785 of the Proceedings, as follows:

"On Chart C-5 I have compared the wages of trainment with the total income of electric railways from all sources, including in the total income items which have nothing to do with operation.³

"It is not a usual comparison to make by any means, but it shows that the ratio of trainmen's wages in 1918 was essentially the same as it was in 1902.

"In other words, in 1902 the companies had available 81 per cent of their total income from all sources with which to pay all their other operating expenses, dividends and all the interest.

"In 1918 they also had 81 per cent. So, as far as net income is concerned, after operating expenses, the wages of trainmen have no effect upon it. The increase in the wages of trainmen has had no effect upon it. * * * * I say no effect—of course, in 1902 the ratio is 19.4 and in 1919 the ratio is 19.8. There is an effect.

"Mr. Warren: A very slight effect?

"Mr. Sturgis: Yes."

On the basis of operating revenue collected per car crew, Mr. Sturgis showed an increase from \$6,180 in 1902 to \$9,550 in 1917, or approximately 54 per cent, which he contended was another indication of increased efficiency on the part of the trainmen.

In support of the charge that overcapitalization and past financial mismanagement are primarily responsible for the present plight of the electric railway industry, the testimony of Mr. Stiles P. Jones, of Minneapolis, was offered on behalf of the employes. Mr. Jones, a former newspaper man and for many

years the secretary of the Minneapolis Voters League, and later secretary of the Central Franchise Committee of Minneapolis, is well known as a diligent and incisive student of public utilities, particularly in their public relations. In preparation for his testimony before the Commission he made a special investigation, covering several weeks' time, into the records of overcapitalization in most of the urban communities where some sort of an official valuation of street railway property had been made with which the capitalization could be checked. The results of his studies were submitted in the form of an elaborate exhibit under the title "Financial Mismanagement of Street Railways."⁴

In earlier chapters of this report I have already laid considerable emphasis upon the effect of overcapitalization in the weakening and destruction of electric railway credit, and have pointed out the importance of a complete reorganization of the financial structure of the industry, if its credit is to be restored and the public interests properly protected. I cite Mr. Jones' testimony at this point because it lays the foundation for the claim put forward by the employes that they too have suffered as a result of overcapitalization and financial mismanagement in the past, and that they will not consent to any readjustment of electric railway conditions in the future except on the basis of a sound capitalization based upon a thorough financial reorganization, with guaranties that the industry shall not be starved and their share in the fruits of production diminished by excessive and preferential claims on the part of capital. At pages 1843 and 1844 of the Proceedings, Mr. Jones makes the following summary statement of his conclusions:

"The present unfortunate predicament of the street railway industry in the United States is one in large part of its own making, created primarily by past financial mismanagement over which the public had no control and for which in this issue it cannot justly be held responsible.

"A study of the financial history of many representative companies discloses an amazing story of financial manipulation clear through the life of the properties, the results of which have been to load them down with a staggering burden of overcapitalization to constitute a permanent charge against operating revenue. The ingenuity of the financial management in creating new sources of capitalization has been without limit. Nothing has been overlooked upon which to hang new issues of securities.

"The inevitable result is seen in the present undermining of the financial structure of street railway investments in this country. The credit of the industry is so impaired that it can no longer finance its own enterprises on possible terms. It is facing collapse through its own devices.

"The methods and agencies by which this unfortunate situation has been brought about frame a sordid background of ruthless exploitation of a great public-serving industry to make financial killings for manipulating insiders. Unwarranted promoters' rewards, excess construction costs, consolidations, mergers, reorganizations, leases, stock bonuses, have all been made the medium for capital inflation. Franchise values, excess earnings, prospective future earning capacity, discounts on securities, even operating deficits, have been capitalized to further add to the burden. Every operating improvement, the increased efficiency of employes, the growth and development of the community and of industry, have been to a large extent used as a means to absorb fictitious issues. And, finally, let us not forget the ingenious device of the holding company to still further complicate a before complex situation and serve as another means to pyramid capitalization and exact additional toll of the public.

"Besides destroying the financial credit of the industry, the results of such practices are seen in other ways affecting public interests, as follows:

"1. Impaired service.—To meet the excess exactments of capital, service has had to suffer.

"2. Impaired operating efficiency.—The effort to protect the integrity of these false values has absorbed the efforts and resources of the companies to such an extent as to make it impossible for them to fulfill adequately their primary function as public-serving institutions. Prior recognition of the interests of the investor has made it necessary to keep down wages and labor and to postpone expenditures calculated to improve operating efficiency.

"3. Maintenance has been robbed to meet fixed charges and pay dividends.—The interest

of capital has been put ahead of the upkeep of the physical property, with the result of diminished operating efficiency and the piling up of an enormous load of deferred maintenance, in the aggregate, to constitute another ultimate burden upon the public.

"4. The public attitude toward many individual companies and the industry in general has been affected to such a point that amicable settlements, franchises, fares and otherwise between the companies and the communities are in many cases well nigh impossible, owing to the present state of the public mind. This is perhaps the most discouraging aspect of the present situation as well as the most serious indictment of the past methods and policies of the industry."

During the course of Mr. Jones' testimony the question was raised as to whether the inevitable effect of testimony of this kind, going into the past history of the industry, would not be to "undermine the whole structure of electric railway rates in this country today?" In answer to that Mr. Lauck, at page 1847 of the Proceedings, says:

"I think that that is something that has already been done, and this evidence would have no effect upon it. It is my personal opinion that the past financial mismanagement has so impaired the credit now that the public will insist that there be some basis of procedure on the basis of fair valuation or some reorganization of the finances. I do not think anything that we could submit here would further add to what has been done in that regard."

The significance of overcapitalization, so far as the employes are concerned, was brought out by the testimony of Mr. Jones at page 1853 of the Proceedings, as follows:

"Mr. Lauck: What is the significance of all of this overcapitalization to whatever extent and from whatever cause it may arise in the past, as bearing on the question of the employes of the company?"

"Mr. Jones: Overcapitalization, of course, has intimate relation with many of the aspects of the street railway situation, but especially towards that of labor.

"With excess capitalization the interest of the investor always in mind, the question of credit uppermost at all times, with the absolute necessity of squeezing out revenue sufficient to keep up credit and to pay dividends on this capitalization as a means to keep up credit, labor, of course, has suffered during all times.

"Mr. Lauck: In other words, the operating results being hypothecated, so to speak, by fictitious issues of capital, if that capital is to be maintained in its market values, that means an absorption of revenue which would otherwise be available for the payment of increased compensation, does it not?"

"Mr. Jones: Exactly."

When Mr. Lauck himself was on the stand, he pointed out in further detail the vital connection between ancient financial history and the present and future living wage. At pages 1886 and 1887 he says:

"We realize that the statement is made that the data that has been presented as to the financial practices of street railway corporations in the past has been criticised on the ground that this is academic and ancient history and has no bearing upon the present. We wish to take issue with that. We think this has a very great significance at the present time, and as a matter of fact is of paramount significance in the consideration of the attitude of the employes towards the industry in this way: That we * * * * do not wish to charge the present managements with responsibility for these practices and the evils which have developed from them, but we consider that they are the victims along with the employes, and the employes and the management and the public are all victims of these past systems of corporation finance which the street railway industry is suffering from at the present time; or, in other words, the practice which has characterized past years of capitalizing income that has been developed as the result of the development of urban communities or the application of new equipment or the increased efficiency of employes. Because with the extension of capitalization in this way, the tendency has been that when other items of operating cost have increased, such as materials and supplies and all the elements going into operating expenses and maintenance and repair of equipment which has been installed by managements for the purpose of securing economies in operation—that with the increase in the operating ratio and these securities outstanding which have been issued without any commensurate investment values in the property and were really a drain upon operating revenues, the margin of safety, the amount of revenue left after fixed charges were paid and remaining to meet new capital issues, has been gradually and gradually declining until

it is practically nil at the present time, and therefore the street railway managers have not had an opportunity or any basis upon which to secure new financing, and which is a direct outgrowth of these previous practices.

"We think the employes have a very vital interest in that, as Mr. Jones pointed out this morning, or as came out in the course of his testimony; that if the capital investment in the properties represented an actual commitment of capital the returns would then be related to the actual capital investment, and it would be evident both to the employes, the management and the public as to the legitimate return in the case of this industry, and the employes would have a better opportunity not only to demonstrate their equitable participation in the earnings of these properties, but also to secure such participation, while if the past system of corporate management would continue there would be no hope for the employe, there would be no hope for the public, and there would be no hope for the present management, because they would all be the victims of the financier or of the interests which were floating these securities or had financial control of the property.

"I think that is conceded by the testimony of the men who are intimately connected with the industry and who are practical men in the industry, I mean as to overcapitalization and the evil effects of it."

Again, at pages 1887 and 1888 of the Proceedings, Mr. Lauck summarizes the conclusions drawn by the employes in regard to the effect of financial mismanagement and their own guiltlessness of the threatened ruin of the industry, as follows:

"Our general conclusion * * * * as to labor and the present financial plight of street railways is that we consider that the extraordinary gains in revenue and so forth, arising from different methods of operating, from unearned increments and mechanical equipment, as well as from managerial ability and labor efficiency in the past, have to a large extent been absorbed by these processes of corporate financing or fictitious capitalization, or in other companies have been actually dissipated by improper and misguided financial mismanagement, and our conclusion is that the present deplorable financial condition in which the street railway companies find themselves has not been due to an advance in operating costs arising from increasing outlays to labor but has primarily arisen from past mismanagement of the finances of these utilities, in the way I have just indicated; that the present managements, having inherited the results of past mismanagement in the times of increasing operating costs, the costs of materials and supplies and so forth, have seen their margin of safety disappear and their credit disappear, and the company is placed on the verge of insolvency due to these past financial malpractices.

"Payments to employes of the industry have not only had no effect upon the present finances of the companies, but as a matter of fact the employes have not had an equitable participation in the results of their own labor. Their past productive efficiency has been absorbed by this fictitious capitalization, and if the past methods were to be continued into the future the fruits of the labor of employes as yet unborn, generations yet to come to work upon the railroads would still have their efficiency absorbed and would not have a chance for a fair participation in the revenues of this industry. And unless the present basis of financial management and control is changed the future is without hope, as we claim, to the employes or to the general public or even to the practical managements of the companies themselves who have faced the actual problems, with which they are confronted at the present time, of operation and making the companies go as financial concerns.

"Those are our two main negative conclusions, I might say, that have been developed by Mr. Sturgis' testimony and by the testimony of Mr. Jones, that we consider that labor has not been responsible for increased operating costs in the terms of motemen and conductors, and we consider that the present financial difficulties of the railroads are primarily due to past financial mismanagement. And we agree very likely on the question of bringing up the history of these past managements, of financing these corporations with Ex-President Taft, who, I believe, testified before this Commission that they were not of any significance except it became necessary to take judicial notice of them, and we think from our own standpoint it is necessary for the Commission in relation to the employes to take judicial notice of those facts in order that the employes may have an opportunity of equitable participation in the future in any recommendation which the Commission may make."

Once more, at page 1928 of the Proceedings, Mr. Lauck lays emphasis on the present significance of past history, as will be seen from the following testimony:

"The Chairman: You have stressed very pointedly the financial mismanagement of these companies?"

"Mr. Lauck: Yes.

"The Chairman: What particular point do you desire to make by that part of your argument?"

"Mr. Lauck: The point we had specifically in mind was, in the first place—or rather speaking generally—that the past financial mismanagement of these companies has a very vital significance at the present time, and that there must be some form of adjustment to get it on a proper basis in order to protect the interests of the employes as well as the public, and that your recommendation should cover the prevention of similar methods in the future on the ground that, as employes, we do not wish to see the productive efficiency of the industry absorbed by illegitimate capital issues."

The evidence presented by the organized employes and the program suggested by them are calculated to bring sharply into consciousness the fact that the labor problem is coordinate with the problem of capital. They point unerringly to the conclusion that the electric railway industry cannot be rehabilitated merely upon the basis of a readjustment in the relations between the public and the investors—that labor can no longer be treated as an incidental element in the cost of service for which the employing companies assume undivided responsibility. The solution of the local transportation problem necessarily involves the completion of the triangle and the establishment of direct relations between the employes and the public as well as a radical change in the relations between the investors and the public. This tends greatly to complicate the problem of adequate service at reasonable cost, at least under private operation, for it inevitably withdraws from the realm of private initiative and ultimate private responsibility a big sector of operating management. I do not mean that the Amalgamated itself goes so far as to draw this conclusion. Its policy has been to deal with the electric railway industry as it finds it, namely, under private operation. In fact, the general tendency of the employes has been, if anything, to oppose a change to public ownership and operation. The established policy of the Amalgamated provides for the organization of the employes into local unions with the right of collective bargaining between them and the employing companies with respect to wages, hours and conditions of work. Although the fundamental rules and principles of the Amalgamated are not fully set forth in the Proceedings, it is a fair inference, from the testimony offered, that the organization considers the three principles of union recognition, the living wage and the eight-hour workday as not properly subjects for arbitration. It is the well-established and well-known policy of the Amalgamated to submit to local boards of arbitration all differences between the local divisions and the employing companies that cannot be ironed out by negotiation, except with respect to the fundamental issues that are not regarded as arbitrable. For example, the Amalgamated insists that the Commission shall recognize the principle of the living wage, but it does not ask the Commission to make a specific finding as to a rate of wages, the theory being that the establishment of specific wages will be left to local negotiation or arbitration upon the basis of the living wage principle.

In its case before the Commission the Amalgamated laid emphasis on the contention that labor is not to be treated as a commodity, and that wages, hours and conditions of work are not to be determined on the basis of the law of supply and demand. At the same time, it "shies" at the suggestion of participation in management or any recognition of responsibility on the part of the employes beyond their day's work and their yearly contracts, although Mr. Lauck did in-

time at one point in his testimony that if a proper plan could be worked out for mutual cooperation between the management and the employes, with the latter participating in the profits while at the same time not risking any reduction of compensation below the standard living wage, the results might be mutually beneficial.

It is one of the rules of the Amalgamated that its local divisions must keep their contracts with the companies, and it appears that, on the whole, the record in this respect is very good; yet, the question suggests itself as to whether the traditional policies of the union are not in fact based upon the assumption that labor is a commodity. The principle of the living wage applied to electric railway labor, under the general policies of the Amalgamated, seems not to be greatly different in theory from the principle underlying the action of the government in fixing the price of wheat and other essential commodities during the war.

The Amalgamated Association was organized at Indianapolis in September, 1892. It holds a general convention every second year. The constitution and general laws of the Association now in force are as revised, amended, and adopted at the Sixteenth Convention held in Chicago in September, 1919. The general spirit and purposes of the Association are shown by the "Preamble," the "Objects," and "Our Principles," as follows:

"PREAMBLE

"We, the Amalgamated Association of Street and Electric Railway Employes of America, this day and date assembled in convention, in order to secure and defend our rights, advance our interests as working men, create an authority whose seal shall constitute a certificate of character, intelligence and skill, build up an organization where all the working members of our craft can participate in the discussion of those practical problems upon the solution of which depends our welfare and prosperity, to encourage the principle and practice of conciliation and arbitration in the settlement of all differences between labor and capital, establish order, insure harmony, promote the general cause of humanity and brotherly love, and secure the blessings of friendship, equality and truth, do ordain and establish this Constitution and these Laws, for the government of said Association."

* * * * *

"OBJECTS

* * * * *

"To place our organization upon a higher plane of intelligence, efficiency and skill; to encourage the formation in Division Associations of sick and death benefit funds in order that we may properly care for our sick and bury our dead; to establish schools of instruction for imparting a practical knowledge of modern and improved methods and system of transportation and trade matters generally; to encourage the settlement of all disputes between employes and employers by arbitration; to secure employment and adequate pay for our work; to reduce the hours of labor and by all legal and proper means to elevate our moral, intellectual and social condition."

* * * * *

"OUR PRINCIPLES

"Resolved, That we hold it as a sacred principle, that trades union men above all others should set a good example as good and faithful workmen, performing their duties to their employers with honor to themselves and to their organization.

"Resolved, That we hold a reduction of hours for a day's work increases the intelligence and happiness of the laborer and also increases the demands for labor and the price of a day's work.

"Resolved, That we hold a liberal education of the young to be a pre-eminent preparatory to life's social and industrial work, and that the principles and purposes of organized labor demand free and compulsory education."

Every local division is required to pay into the treasury of the Association the sum of 65 cents per month for each of its individual members. Of this amount, 11 cents is to be used to pay the expenses of management; 40 cents to create a fund for the payment of death, disability and old age benefit claims; 10 cents to create a defense fund for the protection of the members of the local divisions in the event of lockouts or strikes, and 4 cents to pay the expenses of the Association's official organ "Motorman and Conductor."

The association's method of handling disputes between the employes and the companies is set forth in several sections, of which the following are the most important:

"Sec. 111. When any difficulty arises between the members of any Local Division of this Association and their employers, regarding wages, hours of labor, or any other question that may result in a strike or lockout, the dispute shall be first taken up by the executive board of the Local Division, or by a committee appointed by the Local Division for that purpose, and they shall make a thorough investigation and seek, through conferences with the company, to get the matter satisfactorily adjusted. The committee, after having finished the work of negotiation with the company, shall submit a full report to a meeting of the Local Division.

"Sec. 112. If by compliance with Sec. 111, the committee has been unable to secure a settlement of the matters in dispute satisfactory to the Local Division, and the Local Division believe that the matters in dispute are of such importance that a strike should be ordered, the question of a strike shall be submitted to a secret ballot vote of the entire membership of the Local Division. If necessary to reach the entire membership of the Local Division the ballot shall be taken by referendum, ballots being prepared and so distributed to give every member an opportunity to vote. If two-thirds of the membership voting upon the question decide in favor of suspending work, the Local Division shall at once notify the International President. The International President, upon receipt of such notice, shall proceed to the scene of dispute in person or by deputy, and in conjunction with the committee of the Local Division shall make a thorough investigation and attempt to settle the matter in dispute. In case of failure thus to secure a settlement he shall then, in conjunction with the Local Committee, prepare propositions of arbitration defining the points in dispute and the basis upon which they shall be arbitrated. If the company refuses to accept arbitration as tendered, the International President or his deputy shall then communicate with the membership of the General Executive Board in writing or by telegram and obtain the consent of a majority of the General Executive Board before endorsing the strike."

* * * * *

"Sec. 116. Local Divisions going on strike without the consent of the General Executive Board shall forfeit all right to assistance and be subject to expulsion from the Association."

CHAPTER XLVII

LABOR'S PARTICIPATION IN MANAGEMENT

It appears from the year book of the Amalgamated Association of Street and Electric Railway Employes, issued January 1, 1920, that most of the big city systems are now affiliated with that organization. Of the 62 principal cities and systems listed in Tables I, II, IV and V in Chapter XXVIII of this report those where the Amalgamated does not have local divisions are New York (rapid transit and surface lines of Manhattan, The Bronx and Queens), Philadelphia, Baltimore, Milwaukee, the Twin Cities, the Kansas Cities, Indianapolis, the Lehigh Valley Transit system (Allentown, Bethlehem, etc.), Dallas, Houston, Fort Worth, Harrisburg, New Bedford and Terre Haute.¹

The Amalgamated did not include participation in management as a part of the labor program which it laid before the Commission, and this subject, though frequently referred to in the examination of the witnesses, was not fully presented to the Commission in its broad aspects. But a great deal was said about the Philadelphia Cooperative Plan, and Mr. James D. Mortimer also explained the labor policy of the Milwaukee Electric Railway and Light Company and the other companies under his control.

The Cooperative Plan of the Philadelphia Rapid Transit Company was put into effect in 1911 by the Stotesbury-Mitten management. It has commanded public attention to an unusual degree because of the extraordinary results attributed to it. In fact, Philadelphia has shared with Cleveland through the war period the distinction of a fair degree of electric railway prosperity on the basis of the 5-cent fare, and, next to the Cleveland service-at-cost plan, the Philadelphia Cooperative Plan, undoubtedly, has been the subject of more favorable comment than any other local experiment in street railway operation in recent years. Not only has the Philadelphia Rapid Transit Company maintained the 5-cent fare, but since 1917 it has paid dividends at the rate of 5 per cent per annum on its common stock. The Mitten management in Philadelphia has been held up to the country as a shining example of what can be done through efficiency and cooperation in the way of operating economies and the curtailment of the cost of service. Unquestionably, Mr. Mitten's management, at least from certain points of view, has been phenomenally successful. Nevertheless, it does not meet with favor from the Amalgamated, as it does not carry out the fundamental principle of the labor program, namely, union recognition and collective bargaining with a local organization of employes affiliated with the International. The opinion of Mr. Lauck, speaking for the Amalgamated, is given at page 1936 of the Proceedings, as follows:

"I think that the Philadelphia form of organization from the standpoint of the employes cannot result in permanent good to the employes unless through the enlightened policy of the

company itself. I think it means in fact the same thing as the Standard Oil plan. If it is pursued under an enlightened paternalistic policy it may work for a time. But when there comes a time when the employes attempt to secure something from the company, I think the whole organization will go to pieces. I think it is not effective at all from the standpoint of the employes."

On the other hand, the Philadelphia management has been subjected to severe criticism from the point of view of the American Electric Railway Association because of the fact that Mr. Mitten, through the war period, has given wide publicity to the favorable financial results achieved in Philadelphia with the 5-cent fare. In fact, the experience of the Philadelphia Rapid Transit Company under its present management has proven to be a serious stumbling block in the campaign carried on by the electric railways of the country for a higher fare as a necessary remedy for their present financial difficulties. It cannot be said that the Mitten management has exhibited any tendency to hide its light under a bushel, and under the circumstances, it is not unnatural that the attention of both organized labor and organized capital should be focussed upon it. It is perfectly clear that the apparent financial success of the Philadelphia Rapid Transit Company during the present electric railway crisis is a fact that demands explanation.

Mr. Mortimer was produced as a witness by the American Electric Railway Association to challenge the low-fare claims of both Philadelphia and Cleveland on the score that certain elements of cost were being neglected in both those cities, which, if taken care of, would prove that the fares collected have been less than the true cost of the service. He testified on the basis of his personal studies and also on the basis of the investigations made by the Bureau of Fare Research of the American Electric Railway Association under the direction of the Association's Committee on Cost of Service, of which, for two years, he was chairman. I have already discussed, in Chapter XI of this report, Mr. Mortimer's claim that under the Taylor plan the Cleveland Railway has been compelled to neglect making any provision for its "liability to effect future replacements." With respect to the Philadelphia situation he is equally emphatic, as will be seen from his testimony at pages 1993 to 1995 of the Proceedings, as follows:

"If it be assumed that the fair value of the railway property of the Philadelphia Company is four times the gross earnings that would call for, we will say, a minimum valuation of \$120,000,000. It is generally found that, in recent appraisals where property has been fairly well maintained, the liability to effect future replacements is measured by about 15 per cent of the original cost. Now, 15 per cent of \$120,000,000 is \$18,000,000, and \$18,000,000 would be the fair measure of the present liability of the Philadelphia Company to effect future replacements over and above expenditures made for current maintenance.

"It has a reserve of about \$1,200,000, so that there is a deficit in its depreciation reserve of \$16,800,000 in round figures.

"That there is some justification for figuring adequate reserves in the case of the Philadelphia company must be considered in the light of the leases under which the Philadelphia company operates. I think this lease is probably typical, Section 21 of the Union Traction Company lease to the Philadelphia Rapid Transit Company, which refers to maintenance and replacement and the condition of the property when it shall be turned back to the Union Traction Company, which I will read for the record: * * * *

"It is the true intent and meaning of this agreement that the railway system herein demised by the Union Traction Company shall be at all times kept in the same general good repair and condition in which the same now is or will be upon the completion of the contemplated improvement and fully equipped with the best and most improved equipment for operating the same. Rapid Transit Company shall at the expiration or other termination of the lease render to the Union Company all the property and premises in the same good order

and condition in which they now are, with the streets upon which the various lines of railway are laid paved in the same good condition.'

"But that is not all.

"The Transit Company accepts the premises as being in all respects fully equipped in a modern manner as a first class street railway system with all the proper and necessary rail-ways, machinery and so forth, and the Transit Company shall on the termination of the lease deliver to the Union Company the entire system fully equipped and in a thoroughly first class manner in all respects with all improvements which may be then in general use on similar first class street railways of like extent, and in case the Union Company shall object as to the class of property that is being turned over or any part of it as not being in first class condition or that they are not equipped as provided for or intended to be provided for by the lease, then any question of dispute shall be determined by arbitrators and if said arbitrators find in favor of the Union Company an award shall be made in favor of the Union for such an amount of money as shall enable the Union to properly equip such system in accordance with the true intent and meaning thereof.'

"Those provisions contain a very heavy contingent liability, because the cost to the Philadelphia company of settling under these leases may vary over a substantial range depending upon the extent to which the art may have changed previously to the termination of the leases.

"Now, if we take the income account of the Philadelphia Rapid Transit Company for the year 1918 and reconstruct it by making a depreciation allowance of say $2\frac{1}{2}$ per cent on \$120,000,000 property value, \$3,000,000 per annum, we would have substantially a further deduction of \$3,000,000, or more accurately \$2,700,000 from the net income of the Philadelphia company in order to place it upon the same basis of comparison as we have made the analyses of costs of Milwaukee and Cleveland. If that \$2,700,000 is deducted from the net income they would have had net earnings insufficient to pay the interest and rentals by about \$1,000,000 a year, and instead of earning a dividend of 5 per cent on the capital stock, they would have incurred a deficit of about 4 per cent on the capital stock.

"Now, it may be objected that the valuation of \$120,000,000 is a purely gratuitous offering on my part. But that was placed at a minimum figure for the purpose of minimizing the computations to be made from depreciation. Now, if the property be valued we will say at \$152,000,000, which is considerably in excess of the net par value of all the securities outstanding, including the stock and bonds of the Philadelphia Rapid Transit Company, that is an amount equivalent to $4\frac{1}{4}$ times the gross earnings, then the allowance for depreciation becomes \$3,800,000, instead of \$3,000,000. The deficit is more largely increased and the rate of return on the \$152,000,000 becomes 5 per cent instead of the former 7 per cent return on \$120,000,000. These returns have been computed on the basis of maintenance expenditures of $14\frac{1}{4}$ per cent for the year 1918. Cleveland expended 20 per cent and Milwaukee expended nearly 17 per cent for maintenance, and we under-expended.

"If Philadelphia current maintenance expenses were increased by roughly 5 per cent, there would have been an increase in operating expenses of about one and a half million dollars or some figure comparable with what can properly be saved by our rerouting and the elimination of duplicate service and things like that in the operation of the Philadelphia Railway.

"Now, it is interesting to note that, I do not believe that there is anyone that feels that a 5-cent cash fare is adequate for the operation of the Philadelphia street railway system, if measured from the standards with which the cost of service is usually approached. The actual receipts were 56 cents per revenue passenger. If there be added to the cost of service the minimum amount of depreciation, namely, \$3,000,000 or \$2,700,000, rather, and the amount required to pay the dividend upon the capital stock of the Philadelphia Rapid Transit Company, all of which has been paid in evidently, the cost per passenger instead of being 56 cents goes up to 6.25 cents per revenue passenger. And if the maintenance expenses were further increased by an additional 5 per cent of the operating revenue, the cost per passenger would go up to 6.55 cents per revenue passenger, thus obtaining figures with which we are generally familiar in the study of electric railway costs in 1918 conditions."

The Philadelphia Rapid Transit report to the stockholders for 1919 shows that the appropriation for maintenance and renewals, formerly 15 per cent of gross earnings, was increased in 1919 to 16 per cent. This report also shows that the net paid-in capital stock of all the companies in the system, plus the funded debt, amounted to \$129,106,906.84, upon which rentals, interest and dividends were paid in the aggregate sum of \$11,114,941.51, or the equivalent of 8.6 per cent on all paid-in capital. The surplus for the year, after payment of dividends, was \$216,586.80. The company refers to the average fare paid as 3.98 cents, but in arriving at this figure it uses the total number of revenue and trans-

fer passengers and the earnings from passenger service only, while Mr. Mortimer's figure of 5.6 cents for the year 1918, described by him at page 1989 of the Proceedings as the "average receipts per revenue passenger" is evidently computed on some other basis. If he had used revenue passengers exclusive of the 3-cent exchange tickets and the gross revenues from all sources, he would have gotten 5.4 cents, which would seem to be the maximum figure to be derived by any method of computation, and that includes revenues from freight service and non-operating income as well as passenger revenue. The Electric Railway Association's challenge of the *facts* claimed by the Philadelphia Rapid Transit Company is not very convincing. It still leaves a great deal about the financial results of the 5-cent fare to be explained.

One possible explanation was brought out in the cross-examination of Mr. Mortimer, beginning at page 1995 of the Proceedings, where we find the following:

"Commissioner Beall: Mr. Mortimer, can you tell us anything about the distribution of population in Philadelphia compared to certain other cities? Is it not a little more favorable for the loading of street railway cars?"

"Mr. Mortimer: Well, it is generally recognized that Philadelphia has a peculiar distribution of population. I first heard about that in 1907 when it was said that all the people who worked downtown lived outside and all the people who lived downtown worked outside, so that it resulted in rather favorable conditions from a traffic standpoint. It gave loaded cars both ways. That is evidently still the condition. Philadelphia's remarkable industrial development in the last four or five years—people who have seen the service and watched it carefully say that the rush hour cars are loaded both ways, in other words, the amount of empty car mileage which has to be made is at a minimum, due to the peculiar relative distribution of population and industries."

Still, Philadelphia was Philadelphia in 1910, and the company was "on the rocks" then, in spite of the 3-cent exchange tickets and in spite of the low wages and pre-war prices. The company's relative prosperity under the five-cent fare in these troublous times still demands an explanation. Beyond doubt, it is not due to an absence of overcapitalization or to the conservatism of fixed charges; for it is notorious that the Philadelphia Rapid Transit Company has been struggling along ever since it came into existence in 1902 under a tremendous burden of rentals to the underlying constituent companies. This fact was made clear to the Commission by the testimony of more than one witness. It is practically acknowledged by Mr. Mitten himself, but he places the blame for the overcapitalization upon the public as will be seen from the following extract from his annual report to the stockholders for the year 1919:

"The Philadelphia Rapid Transit Company was formed in 1902 to take over the leaseholds and property of the Union Traction and underlying companies and to provide money with which to acquire and develop the franchises shortly theretofore passed in favor of certain interests which threatened to destroy the then existing street railway system.

"The General Assembly had in the early '60s made legislative grants to a large number of separate companies, each entitled to charge a separate fare. To this mistaken policy of establishing competition, where economic law says no real and permanent competition can exist, many of today's difficulties may be traced. These numerous companies, which had been separately financed, were brought together, at great cost, in order to offset the work of the General Assembly, so that a street car ride might be possible over all lines for a single fare.

"In order to bring together the properties now operated by the Philadelphia Rapid Transit Company, the prospective profits of the original grantees had to be paid, and the franchises and property of the Omnibus Company, General, purchased. These were all necessary and consequently legitimate charges, now represented in one form or another in the sum which goes to make up the total investment upon which charges are paid in interest and rentals to underlying companies.

"In 1892 the substitution of electric traction for horse power made further consolidation necessary. At this time additional paving requirements were exacted by the city.

"Philadelphia's first modern pavement of consequence was provided at the expense of the street car system. Paving costs, including interest payments on the original cost, and maintenance and renewal payments under 1907 agreement, now represent \$1,750,000 per annum (equal to 6% on almost \$30,000,000), all of which are included in P. R. T. charges and consequently borne by the car riders of today, as their yearly contribution to street paving—not a proper cost of the transportation of passengers on electric cars."

Mr. Mitten ascribes the relative prosperity of the Philadelphia Rapid Transit Company to the effective cooperation of labor with the management. In short, he advances the cooperative plan as a solution of the labor problem. In his letter of October 2 to Chairman Elmquist, he says:

"Cooperative effort, with a force of well-trained employes, of which 85% receive the maximum rate and 55% are more than 5 years in service, is here found adequate to overcome obstacles seemingly insurmountable elsewhere."

In his 1919 report, he says:

"Cooperation between men and management, so much to be desired and so seldom secured, has here proven to be the keystone of accomplishment in establishing confidence and contentment and overcoming increased costs by greater efficiency and increased production."

When the stockholders of the Philadelphia Rapid Transit Company appealed to Mr. E. T. Stotesbury ten years ago to take hold of the company and see what could be done to pull it out of a desperate situation, he called Mr. Mitten from Chicago to undertake the active management. The Philadelphia situation was undoubtedly acute. In Mr. Mitten's statement before the United States Commission on Industrial Relations at its public hearings in Philadelphia in June, 1914, he said:

"In 1910 a situation developed in Philadelphia that was most serious. There had been a strike in 1909, followed by one in the spring of 1910. These strikes had been attended by riot and bloodshed and cost the Company and the City millions of dollars, while the motormen and conductors lost more than a half million dollars in wages alone. The street car service was demoralized, due largely to the bitterness of feeling between the rival factions into which the motormen and conductors were divided.

"The discipline was lax and the factional feeling between the members of the rival organizations which then had a large membership here had served to increase the accidents. The schedules were interrupted because of the strikes and these general bad conditions, and the cars were in a deplorable condition. In fact, I can think of no situation worse than that which existed early in 1910 when I was asked to come here to see what, if anything, I thought could be done with the situation.

* * * * *

"The Company's credit was seriously impaired because of these very bad conditions, and its most serious problem perhaps was the providing of funds necessary for the rehabilitation of the property, which, as I said, was in deplorable condition. The financial part was arranged so that new cars might be purchased and the property rehabilitated; and then the new Management took hold of the property with the understanding that within five years it would produce an adequate system of surface transportation to the Public and such increased wages and improved working conditions for the men as cooperative effort might make possible; but to the stockholders it promised nothing in the way of returns until both of the other questions had been satisfactorily disposed of.

"Then, of course, the purchase of cars and the bringing of the system up to a state of operating efficiency, so far as physical conditions were concerned, having been provided for, the wages of the men and the handling of labor were my problem.

"I found that the men were then receiving 21.81% of the gross passenger receipts in payment of wages and death benefits and such things as were done for the men in wages and that which corresponded to remuneration for services. I recognized that there were great possibilities in that percentage of the gross, if I could secure the cooperation of the men so that we might together strive to a common end instead of working in opposite directions. I knew that by the purchase of cars perhaps twice as large as those which were then being operated, the time-table cost must necessarily drop as compared with the earnings. I knew

that we were pretty sleepy, and that with proper help from the men, the cars could be speeded up to the advantage of the Public and certainly to the advantage of the men, because of the possibilities of the wage scale which existed in this percentage of the earnings.

"So I worked out a plan which contemplated the putting of 22% of the gross passenger receipts into a fund from which wages should be paid—wages and all other items which went to the men in the way of compensation; and then I planned to have a Cooperative Committee, choosing that instead of a grievance committee, because I hoped, as has proved to be the case, to avoid the grievance by removing the cause of a trouble before it became a grievance.

"I developed the Cooperative Plan, setting up that 22% of the gross passenger receipts should be placed in this fund, and providing for the establishment of a Cooperative Committee composed of a representative of the men from each depot, together with the superintendent of each depot. The situation at that time was that, so far as I could learn, about one-half of our men were members of the Amalgamated Association with which I had had contractual relations in the City of Chicago. The remainder seemed to be about equally divided between the members of a local organization called the Keystone, and those who did not seem to be affiliated with any organization. Here was a situation that was the source of a great deal of disturbance in the force. The members of the rival organizations were knocking each other, and I determined that nothing really could be accomplished unless I could get unity of effort. Having had some success with that in the past, I was quite certain that I could get the same thing here.

"In order that the attitude of the company, in view of this very mixed situation, should not be in any way misunderstood, I stated in the Cooperative Plan Booklet (issued in August, 1911) that the Management did not take a position either for or against organized labor. I did say that the condition then existing could not go on with any hope of satisfactory results to the Public, to the men, or to the Company, and I set forth a plan in this booklet by which, if two-thirds of the men by secret ballot determined that a contract should be made by the Company with organized labor on the basis of the Cooperative Plan, the Company would make such a contract; but while it could not require any of its men to belong to a labor organization, it could, if so large a majority as two-thirds of its men desired that a contract be made with a labor organization, pay from the 22% Fund the sum of the dues of every man. My thought, as then expressed, was that by so doing we would eliminate the continual trouble caused by the collectors of dues at the stations, of organizing upon the cars, and would eliminate absolutely the necessity of wearing union buttons. This condition was causing a great deal of difficulty because in one section the men would wear the button of one organization and the men in another section would wear the button of another organization, and very often we would get two men on the same car wearing different buttons and both working at cross purposes.

"The representatives of both the Amalgamated and the Keystone organizations agreed to the Cooperative Plan; and I had said in the booklet that at the request of either one of the organizations such a vote would be taken. At the request of the Amalgamated such a vote was taken at Horticultural Hall, November 2, 1911. The result was signed by the Judges and everybody was satisfied as to its being a secret and fair vote. The affirmative vote was not quite two-thirds, but was 353 votes short of polling the required two-thirds. But before any move was made beyond the taking of the vote, a split-up occurred in the Amalgamated Association here locally, so that I had a condition to deal with where there were three sorts of buttons being worn by the men—the Amalgamated, the Keystone, and the buttons worn by the split-off organization, which followed a local leader here, Mr. Pratt. In none of these factions did there seem to be 25% of the total, while a number equal perhaps to about 40% were wearing no buttons at all.

"I then notified the men that the vote being as it was and the situation as it was, we would deal with the men as individuals, the plan providing that at any time should one-third of the men by petition so request, another vote would be taken, that being, to my mind, a precaution that the men should have as against unfair dealing on the part of the Management, or a change in the Management.

"The plan was put into effect, and, at the outset there was so much bitter feeling between the men that it was very difficult to know just how to get representatives from the depots to act upon the Cooperative Committee. As a start I had them selected by the superintendents. Then in April, 1912, I had the men themselves suggest the names of those whom they desired to represent them, by signing their names. At that time about 87% of the men signed their names, but the division followed almost the division of the original leadership, which gave me such a situation that to have selected the first man or the man having the highest vote at each depot would not have given a fair representation. In other words, the Cooperative Committeeman would have been the representative of one lot of men and not of the other. So I took the men that had the highest, and also the next highest number of signatures at each depot. Then some months later we adopted a voting machine by which each man could vote by secret ballot; and still continued the plan of selecting the first and second Cooperative Committeeman from each of the depots. This method has gone along to the place where now it is our plan to take such a vote at each depot as nearly once a year as possible, giving the men the opportunity of recall.

"Of our 14 depots, 12 have had elections for Cooperative Committeemen within the past 12 months, two more remaining to be taken. As showing the interest of the men in the selection of the Cooperative Committee, approximately 98% of the men vote. Something over 80% of the men in the 12 depots who have voted, have voted for the men who have been elected."

At the original election of November 2, 1911, to which Mr. Mitten referred, the vote was 4,276 in favor of a contract with the Amalgamated and 2,366 against it. All but 302 of the men qualified to vote participated in the election. In this case, the majority did not rule, as the company had stipulated a two-thirds affirmative vote as a condition precedent to its recognition of the union.

As a part of this same testimony before the Industrial Relations Commission, Mr. Mitten explained the system of discipline and discharges under the Cooperative Plan as follows:

"The basic principle of discipline under the Cooperative Plan is that the penalty for the infraction of any rule shall be no more severe than is found by experience to be necessary to insure proper service to the public and the maintenance of proper discipline. One of the first things in that regard which we found necessary to change was to do away with the practice of requiring motormen or conductors to make apology in person. This was quite a favorite way of punishing the men in the old days, and perhaps a very unfair attitude to take. That has never been done under the Cooperative Plan, and has never needed to be resorted to. The old practice of discharging men as a punishment and thereafter reinstating them through the influence of others, irrespective of the merits of their case, is not now permitted. Formerly it was not so much a question of whether a man was properly discharged, but of how influential his friends were in getting him back. It became very difficult to have the men understand, under the new plan, that a discharged man was discharged, and that it did not mean merely a suspension. Under the Cooperative Plan, discharge is resorted to only as the last resort, the Cooperative Committee being most effective in preventing the discharge of motormen and conductors by advising them to mend their ways and assisting in presenting all the facts to the Superintendent of Transportation in order to insure a thorough understanding of the true merits of the case.

"After all, in considering a method of discipline, the character of the service to the public, namely, the decreased accidents, greater care in the operation of cars, and more courtesy to the public on the one hand, and the few discharges on the other, constitute perhaps the fairest and best analysis. Cooperative Committeemen do not so much get a man returned to duty after the man has been discharged, because we do not discharge the man until sure that he must be discharged; but they do prove most effective in correcting by suggestion to the men those things which must lead to discharge if continued. The result of this plan and the work of the Cooperative Committee is perhaps best evidenced, as I say, by the quality of the discipline now maintained, which I think must be agreed by everybody to be far superior to that ever attained here before, as against the number of men whom we find it necessary to discharge in maintaining that standard of discipline.

"In 1911, 1,635 men were dismissed. That was 1 in every 5. In 1912, 855 were dismissed, being 1 out of 8. In 1913, 536 were dismissed, or 1 out of every 12. In 1914, 334 were dismissed, or 1 out of 20.

"As bearing upon the worth-whileness of the job, the resignations are significant: In 1911, 1,390 men resigned; in 1912, 913; in 1913, 956; in 1914, 337.

"With the aid of the Cooperative Committee, a book of rules was prepared on the lines that I have described, this I think being the first instance where rules for the government of the men have been prepared by the officers and the men's representatives jointly."

Mr. Mitten also explained that the "runs" were distributed and the hours of service fixed largely by the men themselves, as will be seen from the following:

"Under the Cooperative Plan, the make-up of the runs or hours of service is handled practically by the men themselves. You have on the one hand 22% of your gross passenger receipts which represents that sum which you have agreed to pay for the service. On the other hand, you have a required number of cars on the street at the hours necessary to properly serve the Public. Those two facts being established, you may largely leave it to the men as to how the runs shall be made. In the street railway business, to properly care for the needs of the Public, you must cover a peak load in the morning and a peak load in the evening. To cover those two peaks in Philadelphia requires a space of from 13 to 14 hours. Therefore, to economically use the 22% fund, a considerable number of the runs must have a hole in them, as the men say; that is, cover the morning peak, a rest, and cover the evening peak

"When we came here, quite a number of the runs covered a period of 16 hours over all. We determined that that could be done in 14 as a maximum. They were operating an insufficient number of cars in the evening hours. It, therefore, became necessary, in order to serve the Public, that we materially increase the number of cars in the morning and in the evening. We have increased the rush hour service in car-seating capacity 50% as compared with that operated when we came here. Then, as I say, determining what service we must give to the Public, there being no question of what we are to pay for it, there is no reason why the Cooperative Committeemen should not have pretty much the voice as to how the division of runs is to be made. If there is lost motion, or we have to pay for work not performed, that must naturally be reflected in the rate of wage the 22% Fund will pay. So that the Superintendent of Time Tables, determining from his traffic checks the service required, puts the cars upon the street. The Cooperative Committeemen from the depot, from which those cars will be operated, then come in and go over the division of the runs, and that is the decision made in each instance. So that if you will be sure in the first instance that the men, through the desire to make a large wage, be not permitted to run such hours as interfere with their effectiveness in avoiding accidents, and if, on the other hand, the runs are not made to allow so few hours of service as to make the men's wage inadequate, the Company's or the Management's end of it is practically covered. In that way, we pay not less than 9 hours minimum for a regular week-day run. No man is required to work a run that covers more than the 14 hours over all, in which there would be a large hole in the middle."

In April, 1910, under the old management, and as a part of the strike settlement, the company promised to pay the men during the five years beginning July 1, 1910, a scale of wages ranging from a fixed minimum of 22 cents per hour for the first year of employment up to a variable maximum ranging from 23 cents in 1910 to 25 cents in 1914. In announcing the Cooperative Plan in August, 1911, based upon the establishment of a fund of 22 per cent of the gross passenger earnings out of which trainmen's wages would be paid, the management said:

"Cooperation on the part of motormen and conductors by taking a personal interest in raising blockades, maintaining schedules, careful collection and accounting of fares, avoidance of accidents and observance of the Company's rules, together with the introduction of improved operating methods and of a large proportion of cars having almost double the seating capacity of those displaced, will, it is confidently expected, make possible such an increasing wage over that contained in the Company's published promise, as will result in a maximum wage of 28 cents per hour in the year beginning July 1, 1915.

"The graded scale of wages as set forth in the Company's published promise of April, 1910, will be extended as soon as the maximum wage therein provided for has been accomplished.

"The old argument against the graded scale, by which it was contended that the Company's interest was to dismiss the older and higher priced men to make room for the lower priced new employes, has not to be here considered, as the Company cannot reduce its cost by any change in the scale of wages paid, it being distinctly obligated to, and actually is, commencing July 1, 1911, setting aside in a separate fund 22% of its gross passenger earnings. All payments to motormen and conductors will be made from this fund, and the sum accumulated therein will be added to that increased wage which was promised in the Company's published notice of April, 1910."

As a matter of fact, the 22 per cent fund raised the maximum wage rate to 31 cents on July 1, 1915, instead of the 28 cents forecasted in the company's 1911 announcement, and the wage was further increased to 43 cents as of July 15, 1918. At this point the scheme broke down, as the 22 per cent fund was no longer sufficient to meet the wage advances made necessary by the increase in the cost of living. A number of the employes struck in 1918, and the company was brought before the National War Labor Board. The company's story of what happened is contained in its booklet entitled "The Co-operative Plan—1911-1918," as follows:

"The principle of the Cooperative Plan, as originally established, i.e., that employes may belong to any union or other organization without 'let or hindrance,' has proven to be the rock of its dependence and the disarming of its opponents. Of the two attempted strikes,

neither proved effective in causing serious interruption to service. The attempt in the present year was so timed as to take full advantage of the depleted force occasioned by the Draft requirements of the Government. It afforded the most striking demonstration of the effectiveness of cooperative effort between the Company and employes, in that the cars necessary to provide the extra service to war workers were at once manned and operated for several weeks by volunteers from all departments of the Company so effectively that when called upon to answer the complaint made to the War Labor Board at Washington, the Management was able to prove by the representatives of the shipyards, arsenals, etc., that service had not been interrupted and was being adequately supplied. As a consequence, the War Labor Board dismissed the complaint, following our voluntarily undertaking to adopt the wage scale then being established by the War Labor Board to govern the cities of Chicago, Cleveland, Detroit and Buffalo, and our further undertaking to give the objecting employes opportunity of continuous employment during good behavior."

The elimination of the 22 per cent fund in the Philadelphia Cooperative Plan as revised in 1918, and the adoption in place of it of a wage standard dependent entirely upon the wage achievements of the organized employes in four other cities, seems like the complete abandonment of the incentive upon which the original plan of 1911 was built and as a result of which it achieved its notable successes. The Cooperative Plan, as it now stands, provides the machinery for cooperation, but apparently leaves the distinctive motive for it out. The procedure is as follows:

The business of the company is divided into classes or departments, and each department is sub-divided into "contact groups" or "branches." Differences between employe and employer are settled through the medium of (1) branch committees, (2) department committees, (3) general committees, and (4) boards of arbitration. The rule is laid down that "the workers shall have a free and independent vote for representatives for proper collective bargaining." At each depot station or division two branch committeemen are elected by the workers. Each worker votes for only one candidate and the candidates receiving the highest and the next highest number of votes, respectively, are declared elected. The employer also appoints two representatives for each depot, station or division. The committeemen elected by the workers constitute the Branch Committee for Employes and those appointed by the company constitute the Branch Committee for Employer. The committeemen representing the employes are elected to serve for the period of one year. It is declared that "it shall be their duty well and truly to represent their fellow employes and to give all matters under consideration or discussion their best thought and the benefit of their knowledge and experience." At least once in every three months there is an opportunity for a meeting of workers at each branch, when reports are made by the local committeemen. The dates for elections and the hours when the polls will be opened are so arranged as to give every qualified voter at the local depot, station or division an opportunity to vote, but the different election dates are arranged in such order and sequence as to provide always on the several committees for a working majority of members who are familiar with the nature and routine of the business transacted. Notice of any branch election must be posted conspicuously in the local branch 21 days in advance of the election date. Elections for committeemen are by secret Australian ballot under the supervision of an election committee of three members chosen by and from the Department Committee for Employes. To qualify as a voter an employe must have been six months in the company's service, must be regularly assigned to duty and may

not occupy an official position of any character with the company. In order to be eligible for selection as a committeeman an employe must be regularly assigned to duty and must have been continuously in the employ of the company for not less than two years. Candidates for election as committeemen must file with the secretary of the general committees, not less than 13 days in advance of the election, official nomination papers signed by not less than 7 workers qualified to vote at the branch. A worker is not expected to sign more than one nomination petition at any election, and no employe who may properly be said to represent the employer is to be chosen as a representative of the workers.

The business of the company is divided into 5 departments, namely: Transportation, rolling stock and buildings, electrical, way, and general offices. Each department is to have a Department Committee for Employes and a Department Committee for Employer. The committee for employes consists of all of the branch committeemen elected by the workers at the several depots, stations or divisions of the department. An equal number of persons appointed by the company in each department constitutes the committee for the employer. The department committee for employes and the department committee for employer each elects a chairman, but the secretary for the general committees or his authorized representative acts as secretary for the several department committees without vote. Stated meetings of each department committee are held in alternate months throughout the year and special meetings may be held at the call of the secretary or upon the request of 5 members submitted in writing to the secretary. No less than two-thirds of the members of any department committee shall constitute a quorum for the transaction of business at any regular or special meeting of that committee.

The members of each Department Committee for Employes annually elect two of their number to represent the department on the General Committee for Employes. An equal number of representatives appointed by the president of the company constitute the General Committee for Employer.

Any point of difference between employer and employes originating at a local branch is first taken up by the branch committees; if not settled by them it is taken to the department committees; and if not settled there it is taken to the general committees. The powers and duties of the general committees are set forth as follows:

"It shall be the duty of the General Committees to devise ways and means for furthering the efforts of the various Department Committees for the greatest possible good, to promote harmony and good fellowship among all employes of the Company, to formulate plans for submission to the several Department Committees, and to render every assistance within their power toward advancement of the interests of the employes and the betterment of the service.

"Further, the General Committees shall possess the power to review, modify or reverse any findings or decision of the Department Committees, and may, in their judgment, change any portion of this Plan or any modification thereof or the composition of any of the Committees, or any of their various respective functions.

"The scope and authority of the General Committees shall be superior to that of the Department Committees and their decisions in all matters shall be final and binding, except as hereinafter provided."

Each of the general committees elects its own chairman, but the secretary for the general committees is appointed by the president of the company. It is the secretary's duty to keep accurate minutes of the meetings of all committees

and for this purpose an assistant secretary is to be employed. Regular meetings of the general committees are held on the third Tuesday of each month and special meetings may be held at the request of the chairman of either of the general committees. Here, also, two-thirds of the members of each general committee are required for a quorum for the transaction of business. All committees, whether representing the employer or the employes, vote as a unit. Upon this point the plan makes the following provision:

"In the discussions of the Department Committees and of the General Committees it is intended that Employes shall sit on one side of the table, so to speak, and Employer on the other side, throughout the collective bargaining contemplated by this Plan.

"The majority of any Committee of Employes shall be the voice of that Committee.

"The majority of any Committee of Employer shall be the voice of that Committee.

"Whenever the minds of the majorities of any Committees meet, the controversy shall be settled.

"While it is intended that there shall be full and free discussion in order to arrive at an amicable understanding and settlement of controversies, whenever it is necessary to take a vote to ascertain the voice of any Committee, the Committees for the Employes and for the Employer shall have the right to retire and cast their vote in secret caucus. In such secret caucus all such votes shall be taken by secret ballot, said ballots to be returned unopened to the Secretary for the Committees. The Secretary shall count the ballots under the observation of both Committees and announce the result in open meeting."

In case a grievance cannot be settled through the general committees, a board of arbitration is established consisting of one arbitrator chosen by each of the general committees and a third by the two so chosen; but in case they are unable to agree upon the third arbitrator then the Provost of the University of Pennsylvania, the Chairman of the Public Service Commission and the President of the Chamber of Commerce are requested to serve as additional arbitrators or to appoint their own personal representatives to act as such additional arbitrators. In any case a decision of a majority of the members of the board of arbitration is binding.

Separate from the machinery of collective bargaining an organization is established known as the Cooperative Welfare Association, membership in which is open to employes over 16 years of age who have been in the service of the company for at least one year. There is no initiation fee but one dollar per month is deducted from the pay of each member as dues, which will entitle the members to life insurance, sick benefits and pension. Prior to 1918 the company paid approximately \$90,000 a year into the various funds representing sick benefits, pensions, death benefits, and other benefactions. Under the new plan the Cooperative Welfare Association takes care of all these things and the company contributes a lump sum of \$10,000 per month to the cost of carrying on the Association's activities. In case the income derived from the membership fee of one dollar per month and the company's contribution of \$10,000 per month proves to be insufficient to meet the Association's expenditures, the membership dues are to be increased sufficiently to prevent a deficit, but there will be no increase in the amount paid by the company until the total amount paid monthly by the members equals the company's contribution. After that, all increases are to be borne equally by the company and the employes. A blanket policy has been issued by the Metropolitan Life Insurance Company insuring the lives of those employes who desire to avail themselves of this protection through the Cooperative Welfare Association. A certificate of insurance in the sum of \$1,000 is given to every member of the

Association and this certificate remains in effect so long as the member continues in the employ of the company and retains membership in the Association. A special feature of this insurance is a provision that, in case of total and permanent disability occurring before the member has attained sixty years of age from causes arising after the certificate of insurance was issued, the insured will be entitled to receive the \$1,000 covered by the policy in monthly or yearly installments. The plan also provides for sick benefits payable at the rate of \$1.50 per day commencing with the eighth day's illness and continuing for a period not exceeding 100 days in any consecutive 12 months. Pensions of \$40 per month are payable to incapacitated employes who have reached 65 years of age and have been continuously in the service for 25 years, but meritorious cases of long service falling short of these requirements are to be given special consideration.

The affairs of the Cooperative Welfare Association are administered by a cooperative council consisting of the combined membership of the two general committees for collective bargaining, but the administration of the Association is to be entirely separate and distinct from the function of collective bargaining. The council acts as trustees of insurance for the Association and authorizes the expenditures of all moneys, including payment of sick benefits. It also passes upon the issuance of insurance certificates and the validity and merit of all applications for pensions. The president of the Association, who also acts as chairman of the cooperative council, is elected annually from the membership of the Association by majority vote of all the members of the several department committees for employes. The secretary-treasurer of the council and his assistant are appointed by the president of the company.

The new Cooperative Plan as above outlined was accepted by the company's employes. On December 1, 1918, out of 9,073 employes eligible for membership in the new Cooperative Welfare Association, the applications of 8,399, or more than 92 per cent, were on file.

In his annual report for the year 1919, Mr. Mitten's enthusiasm for the Cooperative Plan and his confidence in its results show no signs of flagging. He states that with a maximum rate of 58 cents per hour the wages of trainmen in Philadelphia averaged \$5.51 per day as against \$5.00 per day in Cleveland and \$5.10 per day in Detroit where the maximum rate was at that time 60 cents per hour. He explains that this result "has been possible of accomplishment by close cooperation between men and management in time-table making, and in better spacing of cars—thus giving improved service to the public and minimizing waste in schedules." Then he adds: "Salesmanship is here demonstrated by the efforts of motormen to pick up all the fares, and by the alertness and courtesy of conductors who endeavor to make the car ride a more agreeable experience." It would appear, nevertheless, that the higher average daily wage with a lower maximum hourly wage could be attained only by the employes working longer hours, or else by a larger proportion of them drawing the maximum rate of pay than in the other cities mentioned. As a matter of fact, the average pay time in Philadelphia and Detroit is approximately 9½ hours. In the supplementary statement addressed to Chairman Elmquist under date of October 2, 1919, and

spread upon the Proceedings at page 2003, Mr. Mitten makes the following comparison between Detroit and Philadelphia with respect to the working hours of motormen and conductors:

"Philadelphia's surface lines have no three-piece runs.

"The system comprises 2,473 regular runs, of which 1,323, equalling 53.5%, are straight runs and 1,150, equalling 46.5%, are two-piece runs.

"The average over-all time per run is.....11 hours, 33 minutes
 The average pay-time is 9 hours, 30 minutes
 The average lost time is..... 2 hours, 3 minutes
 The pay-time is divided as follows:

<i>Hours per Day</i>	<i>No. of Runs</i>	<i>Percentage</i>
8- 9	611	24.7
9-10	1285	51.9
10-11	530	21.4
11-12	47	2.0
<u>Avg. 9.5 hrs.</u>	<u>2473</u>	<u>100.0</u>

"Ninety-seven per cent of all car operating time is worked as a part of regular runs, leaving only three per cent to be assigned as trippers. The average pay-time on regular runs is 9.5 hours, requiring 307 days' work per annum to earn the system average for motormen and conductors of \$1,690 per year.

"According to the figures taken from Wednesday's testimony for Detroit in 1917, therein stated to be slightly improved for 1919, the comparison of over-all time at Detroit and Philadelphia is as follows, the average pay-time of both cities being 9.5 hours:

<i>Completed within</i>	<i>DETROIT</i>		<i>PHILADELPHIA</i>	
	<i>No. Runs</i>	<i>Per Cent</i>	<i>No. Runs</i>	<i>Per Cent</i>
13 hours	865	62.5	1808	73.1
14 "	195	14.2	513	20.7
15 "	147	10.6	135	5.5
16 "	77	5.7	17	.7
17 "	51	3.7	None	None
18 "	46	3.3	None	None
19 "	1	...	None	None
	<u>1382</u>	<u>100.0</u>	<u>2473</u>	<u>100.0</u>

The available evidence with respect to the practical workings of the Philadelphia Cooperative Plan seems to prove beyond reasonable doubt that, at least for the time being, the results obtained have been beneficial to both capital and labor, and that the public also has received benefits. The Philadelphia Rapid Transit Company, after fourteen lean years for its stockholders, finally began to pay dividends in 1916, and, in spite of Mr. Mortimer's testimony, I think the weight of evidence is clearly to the effect that the Philadelphia property is in much better condition with respect to its capital account than it was in at the time when the new management took hold in 1911. That the condition of the men has been greatly improved in that period can hardly be doubted. Wages have been increased approximately 150 per cent, and the evidence submitted with respect to labor turn-over clearly indicates that the men are much better satisfied than they were in the old days.

So far as the public is concerned, it is still enjoying, in the post-war period, the benefit of pre-war fares, and it has also enjoyed substantial continuity of service under the present management. However, it is apparent that a critical situation exists in Philadelphia today as between the company and the city with

respect to the construction and utilization of additional rapid transit facilities. The city has pledged itself to an expensive program of elevated and subway construction and the company, wary as a result of its own experience and the experience in other large cities with rapid transit lines, is not disposed to assume the capital burdens of the new construction upon terms that satisfy the city. There is undoubted evidence that the traffic situation is getting out of hand in Philadelphia, and it is not at all clear what the future developments may be with respect to fares and service.

Mr. Mitten's job has been that of many an imported street railway manager, namely, to make the common stock pay dividends. In undertaking this he has had the advantage of the public knowledge that in Philadelphia the common stock represents actual cash put into the property by the stockholders. Mr. Mitten's fundamental job at Philadelphia has been to build up the property and the business so that the Philadelphia Rapid Transit Company would be able to meet its obligations to the underlying companies and still earn a return upon its own superimposed investment. That from this point of view he has pursued a wise policy and has been an efficient and successful electric railway manager cannot be doubted.

We cannot blink at the fact, however, that from the points of view of both labor and the public, Mr. Mitten's management has been successful only to the extent that the furtherance of the employes' welfare and the improvement of the service to the public have been necessary to the welfare of the capital which Mr. Mitten represents. The Philadelphia plan is based upon the theory of cooperation and the glossing over of the antagonism between capital and labor and between capital and the public in the electric railway industry. So far as the public is concerned, the Philadelphia plan does not have the merit of the Cleveland plan, which was based upon a conservative determination and specific limitation of the demands of capital. From the standpoint of labor it does not have the merit of the free and coordinate exercise of power that is enjoyed by the local divisions of the Amalgamated on systems that are fully organized. With the elimination of the wage fund scheme for enlisting the effective cooperation of the employes there seems to be no special guaranty of the continuation of labor efficiency except as it is brought about by the momentum of the past, continued skill in management, and the avoidance of friction through the cooperative committee system. The long-existing deadlock between the company and the city with respect to the construction and operation of much-needed rapid transit facilities, unless it is broken soon, is likely to undermine the Cooperative Plan and destroy, or at least greatly diminish, its benefits. In other words, Philadelphia has not yet solved the traction problem.

It will be noted that under the Cooperative Plan as worked out in Philadelphia the employes have what might be termed a near-share in the management, but this is a long way from the participation for which the railroad brotherhoods are striving. In Philadelphia everything emanates from the representatives of capital and so long as labor's mind goes along with the management's mind both parties are happy and cooperation is effective.

Another plan which theoretically calls for a greater degree of participation

in management is that which has been put into effect by the companies subsidiary to the North American Company, as described by Mr. Mortimer. It will be remembered that when the Milwaukee street railway employes demanded higher wages the Milwaukee Electric Railway & Light Company called their attention to the rates of fare prescribed by public authority and suggested that they lay their claims directly before the state railroad commission, with the result that capital and labor made common cause to force the hand of the public to pay higher fares. The Milwaukee employes are not affiliated with the Amalgamated but have a union of their own with branches in the several companies of the North American group. Mr. Mortimer describes the Milwaukee labor organization at page 1999 of the Proceedings, as follows:

"We have no local of the Amalgamated Association in Milwaukee. The company has a general labor contract with the Employes Mutual Benefit Association, which gives to that association all the powers of collective bargaining that would pertain to any contract with the Amalgamated Association, and while it, presumably, is designed to avoid a strike, it has not been effective in preventing a strike. We had a strike of the employes on January 1st of this year.

"The union embraces all crafts and all the employes of the Milwaukee Electric Railway & Light Company and its associate companies * * * * operating in the southeastern section of Wisconsin. The parent chapter has also issued charters to other companies in which the same interests are financially interested. So that whatever advantage that interstate support may be, they have this support."

Mr. Mortimer looks upon the labor problem as a very serious one. He has noted the spirit of unrest that makes it hard even for the national officials of the union to hold the locals in check. He sees the need for a keener sense of responsibility on the part of the employes. At pages 1786 and 1787 of the Proceedings, he says:

"Aside from the problem of increased revenues, one of the most pressing problems confronting the railway is that of labor. It has been the experience in the last few years that the strikes on electric railways have been frequent and of varying duration. Their causes have been numerous. During the last four or five months it has been increasingly difficult for the international officers of the unions to control the local unions, and there have been a number of street railways that have had sporadic strikes and outbreaks and threats from the national officers to rule the locals out of the national unions because of failure to adhere to their labor contracts. That spirit or feeling is fairly general throughout labor, prompted partly by the increase in the cost of living and partly by some of the spirit of unrest that has apparently been wafted across the ocean. The rises in hourly rates for the same number of hours per day worked resulting from some of these recent wage awards have been larger than the cost of living experienced since the award of the National War Labor Board. Some of these hourly increased rates of wages may be justified on the shorter number of hours worked a day and the fewer days per month, but as a general proposition I think most students of the labor problem will indicate that something different from the present day scheme of arbitration will have to be developed. And I know in the electric railway business that we need a much keener responsibility on the part of the workmen in their duties to the employer and in their duties to the public, to the end that service may be maintained at a minimum cost and that it may be operated with minimum interruptions, that the convenience of the public may not be disturbed."

He also suggests the idea that wages should be based upon the productivity of the employe. This thought is elaborated at pages 1787 and 1788 of the Proceedings, where he says:

"It is also desirable as far as possible to incorporate the element of productivity as a basis of wages. That looks as though it might be difficult in the railway business, but it is not as difficult as it might appear at first glance. The trainmen forming a part of the employes making up the principal group have primary control over the regularity of speed and the ability to maintain fast schedules and thus influence the cost of platform labor per car mile. Usually they are paid on the basis of hours, that is a rate per hour, and the faster the cars

are operated the less will be the expense of producing the service. They also have control over the power consumption through care in operating the car, care in braking, care in starting and care in shutting off power when the same is not required in order to make its schedule. It is conceivable that the schedule-makers could design a time schedule that would appreciably reduce the cost of platform labor per car mile, but would require the cars to operate so fast that they would not have time to stop for passengers. That that is not an exaggeration is disclosed by the experience of the old St. Louis Transit Company under the operation of the late Mr. A. B. duPont. He was pressed, because of his increase in operating expenses, by the management; and he concluded, of course, that the way to reduce operating expenses for giving the same car mileage was to run the cars faster. So he ran the cars so fast that they did not have time to pick up any passengers and the result was that the passengers usually went to the street intersection with a brick in their hand and if the car did not stop for them they threw the brick at the car. The damage to equipment was considerable, and it finally resulted in the imposition of a license tax on the system, a gross receipts tax of 2%. It was thought that by imposing that tax it would require the cars to stop and it also would placate somewhat public opinion at the outrages that had been committed on them.

"Another element in which the trainmen are primarily interested is the revenues per car mile. So a productivity system of wages can be arranged whereby an agreed hourly rate, graduated, if you please, can be provided as a minimum, and in addition thereto a system of participation in the savings which the employe may effect, first by reason of decrease in injuries and damages; second, by the saving in power consumption; third, by increasing the schedule speed; fourth, by the maintenance of equipment over which the trainmen have control, and fifth, through increased revenues per car mile. Such a system when extended can be made to develop one for the administration of discipline. An employe may start out at the beginning of the month with 1,000 points to his credit, and for each infraction of rules or justified complaints on the part of the public deductions can be arranged so that his participation in the aggregate profits for the month, profits resulting from the savings under these standards, will be reduced, but his saving, that is, the money that is taken from him should go to the other employes of the group so that it cannot be said that the employer is disciplining the men for the purpose of increasing his net earnings.

"It is also possible to put all accounting work on a productivity basis, and there are some psychological aspects to that. Fundamentally and individually, workmen, be they male or female, are desirous of being placed on an individual basis of compensation. Now, that is strongly urged against by certain classes of organized labor. But it has been our experience that where there has been this gain-sharing plan in certain departments we have had demands from other departments—from the employes of those departments—that they be installed. In other words, my actual experience with operations of that kind is different from the general published results.

"I am not suggesting that this will fundamentally take care of increases in wages, because there are no economies which employes can effect, at least in sufficient magnitude, to compensate them for the increased cost of living, either actual or imagined. But they are small elements which tend to develop care on the part of workmen and which in turn have their influence in adding to the life of the physical property under their jurisdiction and tend to develop a certain amount of individual pride and individuality.

"Commissioner Sweet: That would stabilize the labor market to a certain extent, or have a tendency in that direction?

"Mr. Mortimer: Yes, it does tend to stabilize the market. It holds out to employes first a certain return for the month in the way of wage compensation and in addition it offers to them a speculation, and desire to speculate is inherent—

"Commissioner Sweet: A reward for extra good conduct?

"Mr. Mortimer: Well, it is a reward for extra good conduct, but it * * * * originates from that same brain cell that causes men to go into the desert for the discovery of gold mines. There is an intense curiosity invariably displayed as to what the results of the earnings from the gain-sharing plans are going to be for that particular month; and it has the further advantage that through the operation of the plan you can disclose some of the most intimate details of operation to the employes and show to them the influence of changes in conditions and of their own conduct upon the results for the month."

Although he does not say so in so many words, it is evident that Mr. Mortimer is describing methods which have been employed in connection with the companies over which he has had charge. Even representation on the boards of directors has been conceded to labor, as will appear from Mr. Mortimer's further testimony at pages 788 and 789 of the Proceedings:

"Commissioner Mecker: Would you extend the sharing plan to a share in the management of the industry?

"Mr. Mortimer: Yes. We have done that in most of our companies. We have provided

for the election of a representative of labor to the board of directors. * * * * We first provided in our group for the election by the Employees' Mutual Benefit Association of a representative on the board of directors of the Union Electric Light & Power Company, the electric utility in St. Louis. The by-laws provide for seven directors. One of those directors is now a direct representative of the Employees' Mutual Benefit Association. The Employees' Mutual Benefit Association first asked for representation upon the board of directors and we acceded to that request.

"Commissioner Meeker: How long has that plan been in operation?"

"Mr. Mortimer: That election took place, I think, in March of the current calendar year. The employe was chosen by a process of primary nominations at which two were selected to run for the election, and then an election was had to eliminate one or the other and the man chosen to represent the Employees' Mutual Benefit Association on the board of directors is one of the watch engineers in the Ashley Street power station, and he sits in at each of the monthly board meetings. The same thing is now in process of working out in the Wisconsin Gas & Electric Company.

"Commissioner Meeker: Does this employes' representative have the same power as other directors?"

"Mr. Mortimer: Absolutely. He has absolutely the same powers, the right to vote and the right to discuss questions of all kinds.

"Commissioner Meeker: Does he have to have a share in the capital of the industry, or—

"Mr. Mortimer: Yes, the law requires that the directors be shareholders in the states in which we operate. That is not true of all states. And in this case he was qualified by the company transferring one share of stock to his name, so that he is legally entitled to sit as a member of the board of directors. It is all being worked out in the case of the Wisconsin Gas & Electric Company, and in the case of the Milwaukee Electric Light Company certain changes of our articles of incorporation will have to be made, but that will be done, I hope.

"Commissioner Meeker: This employes' representative was chosen by the Employees' Mutual Benefit Association?"

"Mr. Mortimer: Chosen by the members of the Employees' Mutual Benefit Association, which embraces all of the employes of the company."

Mr. Mortimer then describes more fully the functions of the Employees' Mutual Benefit Association and its relation to the company. At page 789 of the Proceedings, he says:

"It is an organization that has two principal purposes in life: one is to administer sick benefits and death benefits, provide medical and surgical attendance for the employes, and also to provide additional insurance of both life and sickness and accidents, off-duty types. In respect to certain of its insurance benefits where the rate is flat and that business does not carry itself, the premiums are not sufficiently high, it is necessary for the company to make contributions. Its other principal function is that of collective bargaining, and in that respect, of course, it needs no contributions by the company.

"Commissioner Meeker: By collective bargaining, you mean settling upon the wage and hours?"

Mr. Mortimer: And conditions of labor, yes."

The effect of the profit-sharing features of the Milwaukee plan is described more fully at page 790 of the Proceedings, as will be seen from the following extract:

"Commissioner Meeker: Before you leave the question of labor relations, I would like to ask a little bit further about this gain-sharing plan that you have. Do the employes actually have an appreciable control over accident prevention?"

"Mr. Mortimer: They do.

"Commissioner Meeker: Do you think you have statistical demonstration of that?"

"Mr. Mortimer: Yes, we think we have.

"Commissioner Meeker: Your actual rate has been cut down since this plan was put into operation?"

"Mr. Mortimer: Our actual disbursements for injuries and damages have been materially less since this plan was effected.

"Commissioner Meeker: How long has this plan been effective?"

"Mr. Mortimer: This plan applicable to transportation in conjunction with our employes has been applicable since June, 1915, a period of four years.

"Commissioner Meeker: Have you statistics which would bear upon this subject? Of course, other causes have been operating to cut down the accident rates; the general safety

movement and the workmen's compensation movement and other movements. Do you think your experience is better than the experience of other companies in a similar line of business?

"Mr. Mortimer: I know in many cases the electric railways have experienced an increase in the cost of injury and damage settlements.

"Commissioner Meeker: However, that verges on quite another question, the competence of administration of compensation laws and increases in rates which have been quite general in all the compensation states and various other matters.

"Mr. Mortimer: But, Mr. Commissioner, the injuries and damages to which I refer and upon which these calculations are based relate to injuries and damages to the public and have no relation to workmen's industrial injury compensation."

Mr. Mortimer frankly states that, in his opinion, most public utility operators would like to approximate the labor standards set up by the Amalgamated, if they could only see their way clear to get the necessary revenues, and that under state regulation or a service-at-cost plan, there ought to be no real trouble between the companies and their employes. At pages 1999 and 2000 of the Proceedings, he says:

"Our view of that angle of the business is relatively simple. In the administration of a public utility, there never ought to be any opportunity for any substantial dispute between the employer and the employe affecting hours, wages or working conditions. That ought to be the case where state regulation administers rates and service and controls security issues, or under a cost-of-service plan. State regulation is only another expression for cost of service; our so-called cost-of-service plan being automatic rate regulation.

"The employe is, of course, entitled to adequate compensation, and that can be measured from a number of different viewpoints. I think that most public utility operators, if they could see their way of collecting the revenues from the public would be favorable towards very closely approximating the standards which have been submitted to this commission by the representatives of the Amalgamated Association."

He then describes the new Wisconsin law that grew out of the Milwaukee strike of January 1, 1919. On this point his testimony is found at page 2000 of the Proceedings:

"Fundamentally, in public utilities, the question of wages, hours and working conditions is a public problem. The way the law stands in Wisconsin at the present time, it ought to be practically impossible to have a strike if both parties will follow the procedure that is laid down.

"As a part of the Governor's reconstruction plan, he created the Board of Conciliation, consisting of three men, selected in the usual way—one representing the employers, one representing the employes, and one representing the public.

"Commissioner Sweet: How was that last one selected or appointed?

"Mr. Mortimer: These men are nominated by the Governor and confirmed by the Senate; but they are chosen from these respective groups.

"Mr. Warren: It is a permanent board, is it?

"Mr. Mortimer: Yes, it is a permanent board. * * * * With respect to ordinary industrial disputes, other than public service corporations, the Board of Conciliation may assume jurisdiction upon the request of either party. That takes the place of the former arbitration provision under the Wisconsin industrial commission law, which permitted arbitration by the industrial commission only with the consent of both parties.

"With respect to public service corporations, however, the law requires that the Board of Conciliation take jurisdiction and then it shall make its findings and immediately certify them to the Railroad Commission. The Railroad Commission reviews such findings, and modifies or confirms them and makes its determination. If it finds that the public service corporation can pay the increased wages, and earn a reasonable return, then it shall order such wages effective and that order is binding upon the public service corporation.

"If it finds that the public service corporation is unable to pay these increased wages without causing it to earn less than a reasonable return, then the Railroad Commission shall, by order, fix such rates or charges as shall permit the corporation to earn the increased wages and produce a reasonable return.

"That is intended to avoid industrial disputes among public service corporations."

It is not entirely clear what effect this new conciliation law will have upon the relations between the company and its employes in Milwaukee. Apparently, however, the law has been worked out in such a way as to create a solidarity of interest between them, or at least to weaken the motives of both capital and

labor to resist each other's demands. Under these circumstances, a fine spirit of cooperation for mutual self-help ought to be exhibited, but it is doubtful whether the public can find protection in this harmony of purpose. In Philadelphia the public still has the protection of the five-cent fare, but in Milwaukee there is no limit except the company's need as interpreted by the Railroad Commission.

Neither the Mitten plan nor the Mortimer plan goes very far toward effective and responsible participation in management, except in minor details that primarily affect the interests of the employes. Neither plan has assimilated the thought behind the Plumb Plan. The latter has been severely criticized because it would make the employes predominant in the management of the railroads. It would not be so much a participation of the employes in management as a concession by the employes of a right to the public to participate in a minor way in the management for which the employes themselves were primarily responsible. Up to this time capital has been primarily responsible for street railway management.

The Amalgamated program recognizes the fundamental divergence of interests between capital and labor, and provides for the establishment of an equilibrium through the exercise of organized power on either side. It does not overlook the antagonism, but it prescribes rules under which the fight is to be carried on. It admits that the two contending forces have a common interest in the continuance and prosperity of the business, but it recognizes the conflict between them when it comes to a division of the fruits of production. It recognizes capital, and in turn demands recognition for labor, on the theory that two great powers equally disciplined and equally strong can in the long run get on better with each other than they could if one was maintained on a military basis and the other not. The Amalgamated not only recognizes the conflict of interests between labor and capital, but also recognizes a pretty clear-cut division of functions, and aims to preserve to each of the parties freedom of action in its own part of the field.

The Philadelphia plan and, to a certain extent, the Milwaukee plan assume that the fundamental and primary interest in the electric railway business is the interest of capital, and the cooperation of labor is sought and the right of participation in management is given, so far as it is given, primarily as a means of inducing labor to yield itself efficiently to exploitation for the benefit of capital. The idea back of the Plumb Plan is that capital is an inert thing, and that the primary interest in the business is the interest of the workers themselves, who produce the service as a means of gaining a livelihood. The Plumb Plan points to the socialization of capital and the concentration of responsibility for management of industry in the producers. Labor is regarded as the dominant factor in the situation, and if this idea were accepted and practically applied in the electric railway industry, capital and labor would exchange places. Capital would work for labor and would be paid a wage determined by the law of supply and demand, or else by some more or less arbitrary equitable standard based upon the theory of a fair return which corresponds in a general way to the principle of the living wage.

"Participation" in management appears to assume an identity of interest and it is doubtful whether the results aimed at, from the point of view of labor, when participation in management is suggested as a method of solving the labor problem, can be realized unless participation becomes control. This is analogous to the relation between capital and the public where we hear so frequently the gospel of cooperation preached. This idea is often carried so far as to suggest that the city should be represented on the board of directors of the local electric railway company. The inherent weakness of this plan is the fact that a fundamental and irreconcilable conflict of interest exists as between the companies and the public, and that minority representation in the management is based upon the theory of partnership and community of interest, which is a superficial view of the relations of the two parties. The inevitable result is either discord and partial paralysis in management, where unity should prevail, or else the surrender by the city's representatives of the public point of view and the acceptance of the fundamental aims and purposes of capital as the dominating interest to which both parties become subservient. Of course, it would be foolish to deny that between capital and the public, and also between capital and labor, there are rather wide fields for cooperation; but in either case, the giving to an opposing interest of a share in the innermost councils of the company and a partial and subordinate responsibility for its policies is not calculated to bring beneficial results. Probably great good can be accomplished by cooperation between employers and employes in the formulation of rules, the handling of disciplinary problems and the layout of operating schedules, and, of course, in this industry, as in every other, as Mr. Morris L. Cooke suggests, the initiative of the employes should be enlisted for the improvement of operating methods. But participation in management in the larger affairs is more likely to emphasize the underlying antagonisms or else to create an artificial and one-sided unity of policy. If the time comes when labor takes control of industry, it will then have responsibility for management, and capital will have to take a back seat. If government assumes complete control of the electric railways, both labor and capital will have to accommodate themselves to public management, with such degree of participation as may prove to be feasible and compatible with the public interest.

CHAPTER XLVIII

ELECTRIC RAILWAY EMPLOYEES AS CIVIL SERVANTS

Public regulation of wages, hours and conditions of labor, without the assumption of a coordinate public responsibility for revenue resources, is theoretically unsound and practically impossible as a permanent policy. Public regulation of rates, unless the public has authority to question the essential validity of operating costs, including the wages paid, is an "optical delusion." A service-at-cost plan that automatically passes wage increases on to the public in increased fares or in deficits to be made up out of taxes is a cost-plus scheme to which the public cannot afford to consent. If the public insists on having its dealings with the management, under a contract specifying the rates for service, and leaving capital to handle labor as best it can, then the public service is subjected to the vicissitudes of private industrial warfare, and an intolerable condition arises. If government prohibits and penalizes the strike under private management, it runs counter to the deeply-ingrained prejudices of labor which sees a condition of involuntary servitude come in when the right to strike goes out. Under the new conditions of rising costs and corporate poverty, the labor problem under private management becomes knottier than ever. The obvious necessity of establishing direct public relations with labor suggests public ownership and operation of the electric railways as the solution of the labor problem as well as of the problem of credit. Why not cut the Gordian knot by making the electric railway employes civil servants?

Unhappily, this program does not in itself insure the effective cooperation of labor on ideal terms. It does not necessarily assure the employes the living wage, for many classes of public employes are notoriously underpaid, especially in times like these when living costs go up rapidly while public salaries and wages lag far behind. This program does not in itself insure efficiency in the application of labor-power to the production of transportation service, which is now so imperative a need; for examples of inefficient labor on public work are by no means infrequent. It does not even guarantee the continuity of service so important to the public in the electric railway industry, for even policemen have been known to strike and soldiers to mutiny. Yet, under public ownership and operation, properly administered, the labor problem could be attacked directly, instead of in a round-about way through the companies, or as a companion of the problem of credit. Once municipal ownership and operation were achieved, capital would no longer enter into the situation as a private problem, and attention could be focussed directly on labor relations. It is to be presumed that if the better day for labor which Mr. Lauck depicted as growing out of the war and the world upheaval is realized, government will become more democratic and

more responsive to the just demands of the workers. More and more, the evils of governmental inefficiency, indifference and oppression will disappear. At least we must all hope so. Furthermore, we thus far have the example of the San Francisco and Seattle municipal railways upon which labor appears to have been receiving good pay and working efficiently under satisfactory conditions and with the eight-hour workday.

The labor problem is not solved by service-at-cost or by state regulation. It is not solved by the Philadelphia Cooperative Plan, nor by the Amalgamated program alone. Civil service rules, as ordinarily administered, can hardly be said to offer a solution of the problem; yet, with modifications to suit the exigencies of transportation service, they may be very helpful in solving it under public management. In this connection, reference may be made to the provisions of the Fowler municipal ownership bill, introduced in the New York legislature by Senator Fowler in March, 1920. This bill was a revision of a bill drafted in 1918 by a committee appointed by the New York State Conference of Mayors and Other City Officials. It did not become law. Nevertheless, its provisions with respect to responsibility for management and discipline are of considerable interest. Provision is made that for every utility publicly owned and operated a municipal utility director shall be appointed or designated by the municipal governing board. The director's powers with respect to the personnel of the utility force and the character of the rules to be prescribed by the governing board are set forth as follows:

"The municipal utility director shall have full authority to appoint, promote, discipline, remove or discharge any or all officers and employes engaged in the supervision, acquisition, establishment, construction, enlargement, maintenance or operation of any municipal utility under the control of such director, subject to rules and regulations as to the manner of employment, training, competence, discipline, working conditions and compensation, including pensions of such officers and employes. Such rules and regulations shall be adopted by the municipal board and may be modified or changed from time to time. Such rules and regulations shall be consistent with law governing officers and employes of a utility of the same kind and class as the municipal utility, and with the provisions of the civil service law and rules, except as to removal or discharge; but no such officer or employe shall be removed or discharged for political reasons, nor without written charges and a public hearing, to be held upon reasonable notice. Such rules and regulations shall provide means for the adjustment of disputes between the employes and the management without interruption of the utility service. They may provide for the creation of representative committees of employes to act with the management in matters relating to the appointment, discipline and discharge of employes and with respect to the efficient operation of the utility with due regard to the public welfare in the matter of service and the cost of service. Such rules and regulations shall provide for the payment of just and reasonable compensation for the services rendered by the employes and officers of the utility, and may provide for collective bargaining between the employes and the municipal utility director with respect to wages, hours of labor, and other conditions of work."

It cannot be said that the labor problem has been solved in any final way in connection with municipally operated utilities in the United States, but undoubtedly it could be solved by a direct concentration of public attention upon it. Thus far it has attracted comparatively little notice and no concerted effort has been made to work out a solution along other than traditional lines. Organized labor sometimes takes the position that the municipality under public operation is not much different from any other employer. This attitude ignores the fact that under public ownership the demands of capital are largely subordinated. Of course, the fare-paying public is interested in getting service as cheaply as

possible, and for that reason desires to hold both labor cost and capital cost down. However, the farepayers do not constitute the governmental public, whose fundamental interest at all times, even though it is not always clearly recognized, is to see that justice is done and the conditions of a sound, economic, social and political life maintained.

In view of the inevitable importance of public ownership and operation as a potential remedy for the existing ills of the electric railway industry, it is unfortunate, perhaps, that the Commission was not able to make a thorough inquiry into the problem of labor relations on publicly operated utilities.

CHAPTER XLIX

SERVICE VERSUS PROFITS

We have now surveyed the two great coordinate problems in the electric railway industry—the problem of securing capital through credit, and the problem of securing labor through cooperation. Neither of these problems can be solved by itself. Unless the capital funds required for the construction and expansion of electric railway facilities can be secured, labor has no chance either to serve or to be rewarded in the operation of electric railways. On the other hand, unless the cooperation of labor can be enlisted in rendering efficient service at reasonable cost the capital already invested in electric railway facilities will be starved and ultimately lost and new capital cannot be secured for the expansion of facilities which the growth of population and the increase of traffic demand.

It has been demonstrated from every point of view that the electric railways perform an essential public function and that they exist primarily for public service. It is an axiom oft repeated by those who speak for all the parties concerned—capital, labor, and the public—that the full necessary cost of electric railway service, of the amount and quality which the public interest demands and secures, must be paid by those who use the service or by the general public on whose behalf it is rendered. Heretofore, in the initiation of street railway enterprises capital has taken the lead. Funds are put up before work begins and labor entering into construction is capitalized before operation starts and revenues begin to come in. Although chronologically capital comes first as a matter of practical necessity, its reward, under the procedure thus far followed, comes last. It is the farepayers' residuary legatee. Out of operating revenues the costs of operation, including the wages of labor, are paid first and capital has taken what is left. The position of capital in the enterprise, therefore, has been a speculative one. The representatives of capital, having the management in their own hands, have necessarily adopted a policy of keeping the reward of labor for its share in the production of service down to the lowest practicable limit, and also of keeping the quantity and quality of service rendered to the public as far within the cost of the service as possible. Capital has enjoyed the advantage of constitutional guaranties enforced by the courts, except as it may have limited its potential revenues by voluntary contract. It has never accepted "the fair return" as the full measure of the profits it seeks. It wants this, plus something more. Even under these modern service-at-cost arrangements, it demands a fixed return, and a chance for speculative profit too. Theoretically, capital's constitutional guaranty of the right to charge rates that will yield it a fair return while it is devoted to public service is offset by the right of the public through the police power, to require that service shall be rendered at reasonable

rates, with not only the cost of the service but the value of the service to those who make use of it taken into consideration. In the electric railway industry labor has undoubtedly been treated as a commodity, and when purchased and paid for its claims have, for the most part, been regarded as completely liquidated. Capital claims the right to make up past losses, but labor has no way of being recouped for insufficient wages which in the past it may have imprudently accepted. Back pay, where it is awarded in labor settlements, does not ante-date the filing of the claim for advanced wages.

Labor now demands that it shall be put on a par with capital to the extent that "the living wage" shall be given at least the same consideration as "the fair return" in all electric railway settlements. It is a fact of tremendous significance in this entire problem that a great body of law and precedents has been built up in support of "the fair return" on the basis of capital's constitutional guaranties, while, on the other hand, laws and precedents in support of "the living wage" have to fight their way to recognition without the support of the constitution. From the point of view of economic theory, social justice, and political expediency, however, it seems clear that labor's claim to the living wage must be fully recognized. If this be admitted, we have two fundamental elements in the cost of street railway service, namely, the cost of labor on the basis of the living wage, and the cost of capital on the basis of the fair return, and the public, for whom the service is rendered, must count upon paying for the service a sum sufficient fully to cover both of these elements of cost.

Nevertheless, it is true that local transportation is a public service. The cars are not run primarily for the purpose of enabling capital to make a profit or labor to make a living. Neither capital nor labor has any right in the electric railway business except as it is rendering public service. The electric railway problem, obviously, cannot be solved except on the basis of public service, and the public cannot expect to get the service without providing for the adequate reward of both capital and labor. Under private management, capital will continue to claim something more than a fair return, and labor may properly demand a living wage, and, if it assumes a share in the responsibility of the industry to the public, it may demand something more. But it is always to be kept in mind that, in the very nature of the case, transportation or any other public service must be rendered at the lowest practicable cost; and, therefore, under public management "the fair return" and "the living wage" will be the measures of the cost of capital and labor, respectively. The public nature of the business and the exigencies of the present period of high costs combine to suggest that transportation service, to be cheap, must be rendered on the basis of community self-help, rather than community dependence upon private initiative.

CHAPTER L

THE FOUR CHOICES

In seeking a solution of the general problem of electric railway transportation, it seems clear from the standpoint of the public that the first thing to be determined is the character of the public relations of the industry. Four courses are open to us: First, we may abandon the theory of public interest in the industry and slip the leash of public control, leaving the electric railways to go their way as a private industry and work out their own salvation as a speculative business enterprise. Second, we may continue and perfect the theory and practice of public regulation under the police power by giving the regulatory commissions a free hand, with contractual obstacles and statutory limitations of jurisdiction removed, at least so far as they relate to the value of the property, the rate of return to capital, the wages, hours and working conditions of labor, the extent and quality of the service to be rendered, and the rates to be paid therefor. Third, we may establish a more intimate contractual relation between the companies and the public, based upon some type of service-at-cost arrangement, with the public in control of the quantity and quality of the service, and with the fares to be paid by the car riders or the deficits to be made up by the taxpayers determined from time to time by some automatic or semi-automatic plan without the intervention of the discretionary power of public regulatory bodies. Fourth, we may reject entirely the policy of private ownership and operation and proceed to pay off the investors who have loaned their money in aid of public credit and to assume full and direct public responsibility for the production of the service. True, this fourth and last course is subject to two possible modifications. We might provide for the solution of the problem of capital through public ownership, while maintaining private operation to wrestle with the problem of labor; or, on the other hand, we might assume responsibility for the solution of the labor problem through public operation, leaving private ownership to wrestle in a limited way with the problem of capital. Obviously, each of these several courses is subject to almost infinite variation in the details, but it is safe to say that any general solution of the problem based upon evidence presented to the Commission will have to follow the thought underlying one or another of these four main courses; and it may be that differences in local conditions, physical, economic, legal and political, will justify the adoption of different courses in different communities.

CHAPTER II

ABANDONMENT OF THE PUBLIC INTEREST NO REMEDY

Some of the witnesses before the Commission raised a doubt as to the future of the electric railway industry and suggested that the electric railways may even now be getting obsolete as public utilities. It was even suggested that all the special burdens now levied upon the electric railways because of their privileged status in the public streets be removed, and that the regulation of their rates by public authority be abandoned in order that they may be in a position to gird themselves for the battle to the death with their new competitor, the automobile. It was suggested that only in this way will it be possible for the electric railways to prove whether or not, in the economy of modern society, they have a right to survive. It will no doubt be universally admitted that a policy of public regulation or public ownership that would retain in perpetuity, or for a long period of time, an instrument of service after it had become obsolete and relatively unserviceable or relatively uneconomical, would be most unfortunate. However, the overwhelming weight of evidence before the Commission is to the effect that the electric railway is still the most economical and efficient agency for local transportation service and that no rival transportation agency is yet in sight that could even hope to supplant the electric railway completely. While it may be that the electric railway is becoming obsolete in certain locations and for certain types of transportation service, the enormous and increasing volume of the service that it actually renders, and the vast and increasing sum that the public is willing to pay for the service it renders, are sufficient proof of the claim to continued recognition as a public utility.

To most of the witnesses who appeared before the Commission it would be unthinkable that the public should now "wash its hands of" the electric railways and relegate them to the status of a purely private industry. This course would withdraw from capital the promise of a fair return and would withhold from labor the hope of a living wage; and so far as the public is concerned, it would leave its vital transportation interests subject to the caprice of economic fortune and the uncertainty of private industrial struggle. The policy of "hands off" is clearly impossible so long as the rails and the wires occupy the highways, unless we are willing also to give up the predominance of the public interest in the streets themselves. It does not follow from this conclusion that no public burdens now laid upon the electric railways should be removed, or that no equalization of the restrictions of regulation shall be effected as between the electric railways and their competitors. The fact that we cannot afford to withdraw the strong hand of governmental control does not mean that we must hold the electric railways by the throat while their competitors rob them. But the logic

of the situation demands that public policy go forward, not backward; that the electric railways, instead of being relieved of public regulation, be brought more and more closely under supervision. The need now is that the public, having grasped the function of regulation, shall not stop with interference and the paralysis of private initiative, but shall go forward to the acceptance of public responsibility. It is not less public regulation, but more public initiative that is needed.

CHAPTER LII

COMMISSION REGULATION NOT ADEQUATE AS A SOLUTION OF THE PROBLEM

The second course open to us in seeking a general solution of the electric railway problem is along the lines which have already been developed to a considerable extent by the exercise of the police power through permanent regulatory commissions. In Chapter XLVI of this report I reviewed the state regulation movement and its successes and failures as shown by the evidence presented to the Commission.

Dependence upon the police power as a means of solving the electric railway problem does not necessarily mean unrestricted *state* regulation, but under certain conditions it might take the form of local regulation, and under certain other conditions it might take the form of a combination of local and state regulation through cooperative governmental action. Thus far, however, the general regulatory movement in recent years has been mainly in the direction of exclusive state regulation, and when the regulatory method is put forward as the solution of the problem, it is ordinarily understood to mean regulation by state commissions unrestricted by the terms of local franchise contracts. In attempting to assess the availability of this remedy we are compelled to make answer to these questions: How does it safeguard the interests of capital? How does it safeguard the interests of labor? How does it safeguard the interests of the public?

From the point of view of capital, unrestricted state regulation can offer no guaranty except the right to charge just and reasonable rates, coupled with the obligation to render adequate service, in the hope that under these conditions the electric railway industry may be able to rehabilitate itself and reestablish its credit. Capital may demand the right to earn a fair return upon the fair value of the property devoted to the public service, always subject to the fundamental limitation recognized in the law that rates shall be reasonable also from the point of view of the public. There is considerable discord among the voices representing capital with respect to the benefits derived from our systems of state regulation up to the present time, but the undercurrent of thought among the company representatives seems to be that state regulation is the lesser of two evils, and that on account of the recognized public nature of the business, the legal precedents already established, and the political temper of the times, some sort of public regulation must be accepted, and, if so, state regulation is much preferable to local regulation.

To answer the demands of capital in the present status of the industry, and to solve the problem of electric railway credit, state regulation would at

least have to be less restricted and more comprehensive than it has been hitherto. Obviously, it cannot fully protect capital where its jurisdiction is limited by the obligations of municipal franchise contracts with respect to construction, service, and rates. From this point of view, therefore, state regulation, in order to be a sufficient remedy for existing difficulties, must be freed from these local restrictions and be put in a position where it can move rates either upward or downward and can establish and modify standards of service from time to time. Furthermore, in view of the proven weaknesses in the general financial structure of the electric railways, state regulation cannot be effective in permanently restoring credit unless it is extended, as suggested by Mr. W. E. Creed, to cover the authority to compel reorganizations and the scaling down of securities and fixed capital obligations to a point where they will closely correspond with the recognized financial facts. Moreover, state regulation, to be measurably effective as a means of restoring credit, would need to be so extended as to have control over the public burdens imposed upon the electric railways through taxation and otherwise, and also so as to have ultimate control of the wages, hours and conditions of labor, upon which operating expenses so largely depend.

In brief, state regulation cannot solve the electric railway problem from the point of view of capital and credit, unless it is made much more comprehensive than it is at the present time, and even then capital cannot be guaranteed the enjoyment of a fair return or the ultimate security of the investment, except as the revenues derived from the service at rates that are not in excess of the reasonable value of the service to the public are sufficient to pay the expenses of operation and yield the required profit for the investors. It must be admitted, however, that the idea of state regulation, even as applied to the electric railway business, might be so developed as to include as a part of the rate schedule the imposition of standby charges upon the communities served or upon individual properties receiving the benefit of the service, and that this source of revenue supplementary to the revenues derived from fares might yield a substantial part of the cost of local transportation. The right of state commissions to assess against municipalities the cost of public utility service directly chargeable to the general public has been firmly established in the case of water and lighting utilities. For our present discussion the most important precedent is the charge levied against municipalities for fire service rendered by a private water company. This service, ordinarily, involves the consumption of small quantities of water, but it assumes large expenditures in the preparation for, and in the maintenance of, readiness to serve. In just what form such an extension of the rate-fixing authority of the state commissions with respect to the electric railway industry could or should be exercised has not thus far been suggested in detail, but the theory of such a policy must not be confused with the idea of public subsidies. State regulation through the police power does not contemplate the granting of subsidies, or the imposition of deficits upon the taxpaying public. The idea here under discussion is that state regulation, being responsible for the assessment of the cost of service upon those who consume or benefit by the service, may conceivably include in an electric railway rate schedule certain charges against property or against the communities calculated to cover the cost

of the portion of the service that is rendered for the benefit of property or for the benefit of the public at large. There could be no guaranty that the revenues derived from the rate schedule would be sufficient to pay the full cost of the service. Furthermore, it is not a part of the function of state regulation to compel potential consumers to consume, and this consideration may present a serious obstacle to the assessment of a readiness-to-serve charge in the manner just suggested, for, in the electric railway business, individual property owners do not maintain physical connections with the electric railways, voluntarily arranged for and continued, as is true in the case of most other public utilities.

Another extension of the scope and authority of the regulatory commissions that is essential from the point of view of capital is the power to regulate competitive agencies of public transportation service, either through the total exclusion of competition, or at least through the imposition upon competitive agencies of the same burdens and service obligations that apply to the electric railways.

Thus, it will be seen that from the standpoint of capital the exercise of the police power as a means of solving the electric railway problem is dependent upon a concentration of authority and responsibility in the established regulatory commissions, and a great expansion of their functions; and even on this basis, capital must accept reorganization and the reconstruction of its permanent obligations, and in the end continue to assume the risk that as an unsubsidized utility the electric railways may prove unprofitable. In other words, state regulation will have to go a great deal farther than it has gone, and the result will still be in doubt.

From the point of view of labor, state regulation cannot offer a solution of the electric railway problem unless the commissions are given authority to prescribe the wages, hours and conditions of work, and to compel the employing companies to meet the requirements as prescribed. Moreover, as capital's right to a fair return is a fundamental constitutional condition of the exercise of the police power, so, if labor is to be protected by a plan based upon the use of the police power, it must also receive either constitutional or statutory guaranties of the living wage or of some other standard of compensation corresponding to "the fair return" to capital. Moreover, dependence upon state regulation as the exclusive means of solving the electric railway problem involves the acceptance of the principle laid down by the United States Supreme Court in upholding the Adamson Law, to the effect that labor, as well as capital, when accepting employment in an industry affected with a public interest becomes subject to public regulation.

From the point of view of the public, exclusive state regulation violates the general principle of municipal home rule and specifically restricts the power of the municipality to deal as it sees fit with a public function, primarily local and in many ways interrelated with the public functions for which municipalities are deemed to be responsible. Moreover, exclusive state regulation deprives the people of the community, who pay for the service, of the right to prescribe the extent and quality of the service for which they are paying, and removes to a public body, responsible, so far as it is responsible at all, to a much wider constituency, the control of one of the most intimate public functions of urban com-

munity life. As a practical matter, the municipalities feel that local transportation ought to be responsive to the needs and to the will of those for whom the service is designed; that transportation issues are, in the fundamental and appropriate sense, political questions; that their removal from the arena of municipal politics represents an unjustified curtailment of municipal powers and results in an atrophy of some of the vital organs of the local body politic; and that the state commissions, through their remoteness from the people constituting the local public, tend more and more to become subservient to the influence of organized capital which has the means and knows the ways of creating the atmosphere about them. These particular objections on the part of the local public to exclusive state regulation can be overcome only by a substitution of local regulation, or by the establishment of complete political control over the state commissions. Either of these modifications of the state regulation policy meets with the violent opposition of capital.

Perhaps the most important consideration in favor of the policy of state regulation is that it provides an official tribunal, presumed to be impartial, by which the value of the property devoted to public service can be definitely established for rate-fixing purposes. The theories of public utility valuation advanced by different parties in interest are so various that it is generally impossible to arrive at a determination of the amount of the investment upon which capital is entitled to earn a fair return, except through the exercise of the informed judgment of a public body before which the conflicting claims and the evidence in their support can be laid. Under most conditions a fair value could not be arrived at through negotiation, for this one reason if for no other, namely, that electric railway properties have been subjected to so many complex obligations as to leave the management without power to negotiate a value unless the sum total of the values already pledged is accepted by the public as an irreducible minimum. It is at least doubtful, in view of the evidence laid before the Commission and of other well-known or highly suspected facts, whether it is at all practicable to establish a fair value by negotiation except in certain unusual cases.

The advantage of a definite valuation procedure as a part of the machinery of state regulation is offset in a measure by the fact that valuations established in this way are generally valuations for rate or capitalization purposes. They do not fix the purchase price at which the electric railway property may be acquired by the community, nor do they provide a means by which the value of the property can be in whole or in part amortized out of earnings for the benefit of the public and to facilitate the transfer of title to the community. Even here, the state commission may be used, as it is in Wisconsin, as an agency for determining the value of the property for public purchase when the community has determined, under the option given it by the indeterminate permit law, to take over a private utility; but this does not provide a means by which the municipality can prepare long in advance for the municipalization of an electric railway through contract. It can hardly be doubted that the policy of unrestricted state regulation, in the main, assumes the permanency of the existing ownership, and does not concern itself with an ultimate transfer of ownership to the public. While it cannot be said that the system of unrestricted state regulation is directly

opposed to ultimate public ownership, it is clear that in most cases a system of state regulation tends automatically to tie the hands of the community in its efforts to take over the utilities for public ownership and operation.

In conclusion, it is clear that we have not yet anywhere worked out a system of regulation, through the police power, adequate to meet completely the present crisis in the electric railway industry, and that no plan based upon this principle has thus far been suggested that is not subject to fatal objections from the standpoint of capital, from the standpoint of labor, or from the standpoint of the public. Undoubtedly, there is great merit in the regulatory theory, but in its practical application it involves so high a degree of political and administrative intelligence and integrity as to leave us with the conviction that a community, if it can successfully apply the regulatory policy to the existing requirements of the electric railway situation, is capable of any achievement not inherently impossible.

CHAPTER LIII

WHERE SERVICE AT COST FALLS SHORT

The third course open as a means of solving the electric railway problem is the establishment of new contractual relations between the companies and the government upon the basis of service at cost. On the public side these contracts may be entered into either by the municipalities or by the states. In general, the theory of the service-at-cost contract is that the amount of capital invested in the public service and the annual rate of return upon it shall be fixed by agreement; that operating expenses shall be controlled by some arbitrary device such as an annual budget or a car mile allowance, supplemented by a certain degree of discretionary interference by the supervising authority, or else by some sliding scale or bonus scheme to give the management incentive for economy; that the property shall be maintained at all times in good operating condition; that rates shall be flexible and shall be adjusted automatically or semi-automatically from time to time so as to produce revenues sufficient to cover the full cost of the service; and that the community shall have the option to take over the property for public ownership and operation upon payment of the recognized capital value.

I have analyzed at considerable length, in Chapter XLI of this report, service-at-cost plans that have been worked out in various communities. They differ in many important details, and in some cases they depart considerably from the outline just given.

In considering the availability of service at cost as a means of solving the electric railway problem we must again answer these questions: How will it safeguard the interests of capital? How will it safeguard the interests of labor? And how will it safeguard the interests of the public?

The service-at-cost plan is the solution chiefly urged by the representatives of capital at the hearings before the Commission. Like state regulation, the service-at-cost plan recognizes the essential importance of the determination of the amount of the investment, but depends for this determination upon negotiation and agreement. The theory of service at cost is based, not upon the exercise of the police power, but upon contract, and, therefore, at the outset no service-at-cost plan can be put into effect unless the company accepts the proposed valuation. This was true even in Cleveland where the company's capital stock was cut down to 55 per cent of par as the result of a long and bitter struggle and a final compromise with respect to the value of the property. This fundamental element in the service-at-cost plan obviously affords to the capital already invested a protection that is theoretically much more complete than the protection afforded by public regulation under the police power. Whether or not this protection becomes practically effective depends upon the company's ability to induce the

public, as the price of service or as the price of peace, to accept and guarantee a valuation satisfactory to the investors. Theoretically, also, the service-at-cost plan gives to capital a much better assurance of a fair return than is afforded by state regulation. In the first place, the service-at-cost plan fixes, once for all, either the minimum or the absolute rate of return, while state regulation fixes the rate of return on occasion and may change it from time to time as conditions or policies change. It is true that some of the witnesses favoring the service-at-cost plan as a protection to capital insisted that the allowed rate of return be subject to future adjustment with changes in the money market, but it was brought out, upon cross-examination, that capital would object to the plan if there was to be a possibility that the rate of return would be adjusted downward. Finally, capital finds in the service-at-cost plan a much better ultimate protection of its investment than it receives under state regulation, for in some cases the established capital value fixes the ultimate purchase price, and in all cases it tends to establish a presumption that if the property is acquired the price paid will be no less than the value recognized in the contract. The whole tendency of the service-at-cost plan is to give security to the investment and to the annual return upon it, and, at the same time, to eliminate the opportunity for speculative profits. Still, service at cost does not give absolute assurance to capital unless it is accompanied by positive and permanent guaranties.

In the discussion of service-at-cost plans before the Commission, it became clear that under private management the representatives of capital, notwithstanding their devotion to the service-at-cost principle, are unwilling to accept a diet of bread and water seven days in the week and fifty-two weeks in the year. They ask for security at a fixed rate of return and a chance to earn something more as a reward for efficient management or as the result of fortunate developments in the industry. A service-at-cost plan that gives an ultimate guaranty to the capital invested and assumes the obligation to pay the fixed rate of return would reduce the entire investment to the basis of mortgage bonds, and would practically eliminate capital so far as its active participation in the enterprise and its controversy with opposing interests are concerned. Those who spoke for capital in the proceedings before the Commission are not yet quite ready to accept this position for it. It is true that no one of the service-at-cost plans thus far put into practical operation has gone to the length of relegating capital to this acquiescent and inactive condition.

From the facts that were brought out in the testimony it is manifest that the service-at-cost plan, if it is fully to satisfy the demands of capital and fully to restore electric railway credit, must either go farther in the direction of public guaranty, or else must draw back from the fundamental theory of service at cost and provide for a speculative opportunity in addition to an assured minimum return. In other words, from the point of view of capital, service at cost must either go farther and reduce the investment to the status of carefully protected mortgage bonds, or else it must draw back with respect to the limitations it now places upon the reward of the investor. Moreover, without a downright public guaranty, capital is still subject, under the service-at-cost plan, to the risk that the enterprise may be a losing one at any rates of fare that may be charged;

while, on the other hand, if the contract contains no maximum fare limit, it is relieved of the limitation prescribed by the courts, in dealing with the police power, that the rates charged shall not exceed the fair value of the service to the public. Theoretically, subject to these final uncertainties of the financial success of the enterprise, the service-at-cost plan relieves capital of all worry about advancing wages, the increasing cost of materials, the results of inefficient management, the public's demands for more and better service, and the delays of regulating commissions. All these are swallowed up in the cost of the service and the bills for them are passed on to the car riders or to the taxpayers, as the case may be.

What does service at cost do for labor? The plans thus far worked out do not complete the triangle of public utility relationships by establishing a direct connection between the public and the employes. At the same time, the motive of capital to exploit labor by refusing to pay a living wage, or to grant the eight-hour day, or to provide comfortable and convenient conditions of work, is greatly weakened wherever the service-at-cost principle is strictly applied. When the motive for efficiency and economy is restored to the management, representing capital, through concessions to the speculative interest, then the old inherent antagonism between capital and labor is to that extent revived, but, on the whole, the service-at-cost plan tends to make the demands of labor more or less a matter of indifference to capital, as it is fully recognized that whatever labor costs enter into the cost of service will be taken care of without impinging upon the security of the investors, and their assured return. For better or for worse, the service-at-cost plan makes the public acutely conscious of the problem of wages, hours and conditions of work as an element in the cost of transportation service, and although the plan does not provide for a direct interference by the representatives of the public in the adjustment of the relations between labor and capital, it stimulates public interest in these relations and tends collaterally to the adoption of measures to subject the demands of labor to public scrutiny and official determination. In its immediate effect, the service-at-cost plan undoubtedly strengthens the position of labor to the extent that it weakens or removes capital's opposition to labor's demands, while at the same time providing an automatic readjustment of revenues to supply the "wherewithal" to meet labor's requirements as fixed by agreement or by arbitration. Under the service-at-cost plan labor shares with capital, though not on an equal basis, the ultimate risk that the enterprise may not be financially self-supporting.

From the public point of view, theoretically, the service-at-cost plan protects the car riders from the burden of an excessive return to capital, and gives them the right to have as much service and as good service as they are willing to pay for. It also gives the community the right to acquire the property at a fixed price for the purpose of embarking upon the policy of public ownership and operation. It might provide for the amortization of any elements of dead capital or even for the reduction of the "capital value" and the purchase price below the true value reflected by the physical property; but amortization of living capital is not strictly a part of the theory of service at cost, except as it may take place to a limited extent in anticipation of future obsolescence. It cannot

be denied that the public may receive important benefits from the adoption of the service-at-cost plan, but these possible benefits are likely to be measured by the vigor and intelligence displayed by the community in driving the initial bargain, and by the alertness and efficiency continuously displayed thereafter by the community's representatives in administering the terms of the agreement.

From the public point of view, service at cost is a "gold brick" unless the contract is worked out on a basis of full public information and recognized equity. It is admitted by everyone that public cooperation is essential to the success of a service-at-cost plan or any other plan for the rehabilitation of the electric railways. The absence of public cooperation affects not only the interests of capital and the interests of labor, but even reacts adversely upon the interests of the public itself; yet the testimony of Secretary Baker and other witnesses familiar with the long struggle that finally ended in the acceptance of the Tayler plan in Cleveland proves beyond peradventure that service at cost is not a patented and standardized article of commerce to be purchased on the market by any community whenever it feels the need of a readjustment of its relations with the local electric railway system. Service at cost, from the public point of view, can be successful only as it in fact subordinates the special interests of both capital and labor to the predominant interests of the public. This does not mean that service at cost must pay less than the full measure of the fair return and the living wage, but that if the public interest is to be protected, it cannot tolerate the survival of the motive of exploitation in either capital or labor as an active factor in the determination of their compensation for the service they render in supplying local transportation.

Service at cost, if worked out and adopted in a way that protects the public interest, necessarily means the assumption of much greater public initiative and public responsibility for the character and the cost of transportation service. It is, in its necessary characteristics, a long step in the direction of public ownership and operation. Without doubt, any community that succeeds in negotiating a just service-at-cost contract, and that through a series of years succeeds in administering the contract in such a way as to protect the public interest, without infringing upon the just claims of both capital and labor, is eminently qualified to undertake and make a success of public ownership and operation. It seems inevitable that under a service-at-cost contract either the community will take a more and more active part in the management, and will assume a greater and greater responsibility for the supply of capital required from time to time in the expansion of the enterprise, or else it will gradually slip back into a subordinate position while the speculative interest of capital and the self-serving spirit of labor revive. The public cannot tolerate an offensive and defensive alliance between capital and labor to make the electric railways, under service at cost or any other plan, a private enterprise designed primarily for the benefit of those engaged in it, instead of a public utility designed primarily for the benefit of those who need the service.

CHAPTER LIV

PUBLIC OWNERSHIP AND OPERATION THE ULTIMATE SOLUTION

When a housewife finds through a long succession of sad experiences that the problem of "domestic help" is destroying the peace of the family and threatening it with financial ruin, her best course, and in some cases her only course, is to set the children to work and organize the family group on the basis of self-help without the intervention of "servants." In that way the family is enabled to "carry on" without being dependent upon the hired girl. If the silver is stolen it will have to be by a burglar, not by the scrub-woman; if the potatoes are burned and the dishes broken criticism will lose its edge because responsibility will not rest upon an outsider; if the meals are not on time, or if the washing is unfinished, the blame cannot be laid at the door of "striking" domestics. The family learns the lesson of self-help, is educated in initiative and responsibility, and pays for what it gets and gets what it pays for. This is the true service at cost.

Municipal government has often been described as community housekeeping, and, without question, the city has many lessons to learn from the well-ordered, domestic household. Not the least of these is the lesson that when the public welfare and happiness are dependent upon the efficient performance of a particular community function, and all indirect methods of getting it performed end in failure or bring intolerable collateral results, then the only proper thing to do is to perform the function directly.

It may be assumed that the essential public necessity of electric railway service has been proven, and that in any case the public must take the ultimate responsibility for procuring the service that it cannot get along without. In its very nature the electric railway industry is affected with a public interest and cannot possibly be left to be carried on as an unregulated private business. It has been shown that thus far various systems of public regulation have been tried and found wanting, as proven by the fact that never before was the electric railway industry in such a desperate condition as now, and never before was the danger of the ultimate impairment or destruction of the service so imminent as now. It may be admitted that the service-at-cost plan as worked out in Cleveland has thus far proven to be a more satisfactory arrangement than any other worked out under private management; yet the Cleveland plan already shows signs of breaking down. Capital is demanding that some of the very fundamental things in it, upon which its acceptance by the public was based, shall be changed. The public, on the other hand, looks upon the plan as defective because it gives the city no authority to intervene in labor disputes and no final control of extensions, and thus leaves the public without adequate protection in the two most funda-

mental factors of transportation service, namely, continuity of operation and continuous expansion of facilities. Even with its faults, the Cleveland plan was achieved only through a decade of fierce campaigning with unexampled perseverance, financial resourcefulness, and political genius in command on the public side. It is doubtful whether there is a single municipality in the United States today prepared to pay the cost of procuring a settlement on the Cleveland basis, and certain it is that few, if any, electric railway companies, even in their period of critical distress, would be willing to concede such a settlement without a bitter and prolonged struggle. Granting the merits of the Cleveland plan—and they are many, both from the standpoint of the public and from the standpoint of capital—it is doubtful whether elsewhere the parties can afford to go through the painful and expensive process necessary to achieve such a settlement, especially when it does not establish a permanent policy or furnish a final solution. From the point of view of the cost of the service it can hardly be questioned that the cost of capital under private ownership is becoming prohibitive, and that the advantage of the use of public credit as a means of supplying transportation service is becoming greater all of the time. Likewise, the labor problem presses forward more and more as one that cannot be solved in a manner consistent with the public interest without public intervention. All of these things point to the conclusion that public ownership and operation of electric railways, at least to the extent that they are rendering essential transportation service to urban communities, is inevitable.

Having admitted that the electric railway is an essential public industry in times of peace as well as in times of war, and having found no method by which the legitimate interests of capital and labor can be fully protected under private management without the sacrifice of some of the essential characteristics of public service, we find ourselves in the position of the housewife who reluctantly dismisses the hired girl and organizes the family to operate the kitchen and the laundry. In one case, as in the other, the new program presents many difficulties. Perhaps the housewife has potted around for a score of years without learning how to cook. Perhaps the city, likewise, has potted around for a generation or two without having learned how to administer public affairs. Politicians in public life are among the most ready to pay tribute to their own incompetence and lack of initiative. They shun responsibility and a man's job. Most of them oppose the policy of municipal ownership, and their opposition is due, in great measure, to their consciousness of their own unfitness to undertake big things on behalf of the common weal. If big things are to be undertaken, then there is danger that big men will be asked to do them, and then *they* will be out of power. So long as government is primarily a series of interferences and exactions, and so long as public moneys are spent on jobs where the performer does not have to make good, any ordinary fellow with ambition to become a petty tyrant is qualified for public office.

It is a trite saying that the men of initiative and force and ability are at the present time engaged, to a very great extent, in the game of money-making, and that so long as men of constructive ability remain private-minded they will seek to retain the opportunities for initiative and profit that have heretofore

characterized the electric railway field as a private industry. They have sought, and to a considerable extent still seek, the responsibility for doing things, while the politicians in public life shun the acceptance of public responsibility for these things, although the responsibility for local transportation service is inherently and inescapably public. The greatest obstacle in the way of a solution of the electric railway problem is the shrinking of public men from the burdens of constructive responsibility for the performance of public work, and this willingness of private men to assume responsibility for public work in the hope and expectation of being able to exploit the public need for private gain. Still, the time has come when the public must face the responsibility that it can no longer shirk.

It is not now a question of a nice consideration of the difficulties in the way of the public performance of a public function for the purpose of determining whether or not the public function is to be publicly performed. With the breakdown of private agencies for the performance of the function, public ownership and operation become inevitable. The first step toward the solution of the problem is the acceptance of the conclusion that it must be worked out directly through public agencies. With that necessity admitted, the attention of the country and the experience and ability of the leaders of capital, of labor, and of government can be concentrated upon the specific measures to be adopted, upon the removal of the natural and artificial difficulties from the path of public ownership and operation, and upon the specific constructive measures necessary for the effectualization of the new policy.

It is only the most hardy and unthinking optimists who look upon the transition from private to public ownership and operation of the electric railways as a step easy of achievement. Immense difficulties—legal, contractual, financial, administrative and political—stand in the way. Thus far our governmental structure and the public law have been devised, in large measure, for the very purpose of preventing governmental agencies from assuming public responsibility for enterprises which are now recognized to be public utilities. Street railway systems have been permitted to expand and consolidate under private ownership without respect to the boundary lines of municipalities and other political subdivisions. Street franchises have often been granted for long periods of years, or even in perpetuity. Electric railway companies and their superior holding companies have not been prevented from issuing securities in excess of the value of their property and from assuming permanent capital obligations that are utterly inconsistent with the financial soundness of the electric railways as a public utility. Municipal debt limits have been established and debt-incurring powers exhausted for other purposes. Municipalities still retain boundary lines that are not coterminous with the boundaries of the communities of which they are supposed to be the organized political expression, and boundary lines that do not include complete transportation units. Civil service rules and other methods designed to enforce upon those temporarily in control of governmental departments the efficiency and nonpartisanship which they naturally shun have built up barriers against the free development of constructive policies in public administration. These and other difficulties, most of them self-imposed, will

have to be overcome in preparation for the full assumption by the public of direct responsibility for local transportation as a public function.

With these artificial difficulties removed, there is nothing inherent in the construction and operation of electric railways that calls for so high a degree of knowledge, technical skill, perseverant watchfulness, fair-mindedness, and political sagacity as is required for the successful protection of the public interests either under a scheme of unrestricted state regulation or under a service-at-cost plan. If only a fraction of the brains and energy now being devoted to attempted solutions of the electric railway problem through the avoidance of public ownership and operation were directed toward the removal of the existing obstacles in the way of that policy and to the definite formulation of constructive measures to make the policy successful, it cannot be doubted that the most important difficulties in the way of an ultimate solution of the electric railway problem, just to capital, fair to labor and conducive to the public welfare, would quickly disappear.

The history of the electric railway industry and its present condition are sufficient proof that no mere policy of opportunism will suffice to solve the problem. What is needed is a definite, comprehensive, constructive policy, and no such policy has been suggested that does not have public ownership for its ultimate goal. It is said that the electric railways are so sick that they cannot survive the delay while the public ownership program is being worked out, and that, therefore, the immediate necessity is to give them emergency help to tide them over until a permanent constructive policy can be adopted. Many suggestions for immediate or emergency assistance have been made. Doubtless, some of them can be carried out without serious prejudice to the permanent solution. Exceptional public burdens can be lifted for a temporary period; temporary fare increases can be granted within limits that do not seriously restrict the use of the cars; equality of regulatory treatment can be meted out to competing jitneys; one-man safety cars can be installed and other economies in operation effected; the assessment plan can be used or public credit loaned, where the constitution permits, for the construction of extensions and the provision of additional facilities; the powers of regulatory commissions can be extended; and, under certain favorable conditions, service-at-cost contracts can be worked out on a sound basis as a step in the direction of ultimate public ownership and operation. The promptness with which these various forms of relief can be administered varies largely with the legal conditions prevailing in different communities, but it is of the greatest importance that these emergency measures, local and temporary in their nature, shall not be taken on a basis that is inconsistent with a permanent constructive policy, or that will delay the practical working out of such a policy. The work that will take the longest for its completion ought to be undertaken without delay. So many obstacles have been put in the way of the policy of public ownership and operation upon a sound and efficient basis that no time should be lost in commencing the work of removing these obstacles.

The electric railway problem is extremely urgent. The communities are unready to assume the responsibilities that rightfully belong to them. If they stand helpless to undertake the function of local transportation and yet see that

it is an essential public function, they will be compelled to make whatever terms the companies and the employes demand of them. Such a condition of helplessness in the face of public necessity is a confession of governmental incompetence, so inconsistent with the claims of democracy as an instrument of community welfare that it cannot for a moment be made by or on behalf of the municipalities and the commonwealths of America.

What, then, are the main outlines of the program of preparation for the ultimate solution of the electric railway problem through public ownership and operation?

At the outset, the fundamental difficulty in the establishment of new relations between the public and the industry, namely, the determination of the private investment used in the public service, which is to be recognized and protected, must be overcome. In valuation it is no easy thing to arrive at an authoritative figure, but public purchase has the advantage of all other processes in which valuation is a factor in this respect, namely, that when the purchase price has been fixed and paid the matter is settled for all time, and the community can then take such measures as it may find necessary to reduce and ultimately wipe out the capital obligations incurred as an incident of the purchase. In the case of public acquisition the value of an electric railway may be fixed by negotiation, but the chances of an agreement upon a figure that is just from the public point of view are, in most instances, slight, for the reasons that I have already given. Therefore, it is an essential and fundamental element in the program of preparation for public ownership that in all cases a procedure shall be established by which the value of the property may be determined on a just and reasonable basis and title to the property taken, without the consent of the present owners. This can be accomplished under the right of eminent domain, but it is clear that ordinary condemnation proceedings, however adequate for the acquisition of parcels of real estate for street or park purposes, may not be adequate for the determination of value of so vast and complex a property, made up of so many technical elements, as a street railway system. Under certain conditions, where a fully equipped state public service commission exists, it may be practicable and advisable to confer upon this commission the power and the duty to determine the fair value of the property and to fix the purchase price to be paid for it. Under other circumstances, it may be desirable to establish a special condemnation procedure for this purpose. This particular part of the program is beset with difficulties and some danger, but it ought not to be impossible to devise a procedure that will give reasonable assurance of a just result. It must be remembered that the property of an electric railway is already devoted to public service, and that there should be no presumption against the public in the establishment of values when the property is being taken merely to be continued in the same use under public auspices.

As illustrating some of the possible provisions of a public utility condemnation law, I refer again to the Fowler Municipal Ownership Bill introduced in the New York State Senate in March, 1920. This bill provides that whenever a municipality desires to acquire a privately owned public utility it may make application to the state public service commission for a determination of the fair

value of the utility property. In such a case the municipality will have full access to the books, records and accounts of the utility to be acquired, and free access to the utility property for the purpose of securing any information useful in the determination of the amount of the owner's investment in the property, the present condition of the property, the revenues derived from its operation, the cost of such operation, and the value and adaptability of the property to public use, and the municipality as well as the owner of the property is given the right to present evidence on these several matters at public hearings to be given by the commission before it makes a determination of value. The bill also provides that the commission in fixing the value of the property "shall take into consideration the fact that the property to be acquired is already devoted to the public service and is subject to the obligations and limitations imposed upon it by the laws of the state and the valid franchise contracts under which the property is being operated"; and that it "shall also take into consideration, among other things, the amount of capital honestly and prudently invested in the original acquisition, construction or installation for utility purposes of the property subject to acquisition by the municipality, the present condition of such property, its depreciation from all causes and its adaptability and potential usefulness for municipal utility purposes." Under the terms of the Fowler Bill a finding of fair value by the public service commission, if offered in condemnation proceedings by any party in interest, would constitute *prima facie*, though not conclusive, evidence of such value.

After adequate provision for the determination of the value of electric railways for public purchase through the exercise of the power of eminent domain, or by local arbitration or agreement subject to the approval of the proper state authority, has been made, it is essential that effective provisions shall be made for the use of public credit to whatever extent may be required in procuring the funds to effect the purchase. This may be accomplished through a revision of debt limitations, or possibly through the enactment of legislation similar to the Washington and the Wisconsin laws which I have described in Chapter XLII of this report. In any case, the financial measures adopted to make public acquisition of the electric railways practicable must be generous and complete. If they are so restricted or inadequate as to destroy or seriously impair the economic advantage in the use of public as compared with private credit, they will, of course, tend to prevent the accomplishment of the purpose for which the entire program is designed, and will handicap the policy of public ownership and operation at the start.

In view of the extraordinary development of large electric railway systems which not only supply local urban transportation in the strict sense of the term, but also suburban and interurban service through areas which often include many municipalities, it is necessary, as another step in preparation for the realization of the policy of public ownership and operation, to confer upon municipalities the right to own and operate transportation lines not only within their own corporate limits but within their immediate environs, and in many cases to go further and provide for the establishment of transportation areas coterminous with the territories served by existing electric railway systems, or at least coterminous

with the largest areas in which the public interest requires that electric railway transportation be operated as a unit. In some cases, no doubt, state operation will be more advantageous than either municipal or district operation. While the problem of determining by what public agencies the electric railways shall be owned and operated presents some difficulties, it is by no means insuperable. It may be solved in different ways in different commonwealths.

Another essential step in the preparation for public ownership and operation is legislation under which individual communities not yet ready to take over the electric railways may enter into contracts with them on some basis akin to service at cost, under which the continuation and development of transportation service may be assured while the city, the district or the state is preparing to put into full effect the policy of public ownership and operation.

Another essential step in the program is the enactment of legislation under which the wages, hours and conditions of work on publicly owned and operated electric railways may be determined, with adequate guaranties that the just interests of labor will be protected, and that labor shall have the right to collective bargaining and participation in management to the extent that the exercise of these rights is found to be compatible with public interest. Such legislation should provide for the modification of civil service rules, where they exist, so as to make them fully adaptable to the requirements of the transportation service.

Still another step is the enactment of legislation giving to the communities which assume responsibility for the operation of the transportation service the right to determine how the cost of that service shall be paid, whether wholly from the collection of fares, or in part from the levy of standby charges upon property or persons benefited, or wholly or in part from general taxation; also, whether the rate schedule shall be established on the basis of the uniform flat fare, or on the basis of the distance tariff, or otherwise. Street railway transportation being an essential element of the city plan, and the social aspects of street railway rates being of vital public importance, it is essential that the community where the service is rendered should have these matters within its control.

It is unfortunate that the present acute crisis in electric railway transportation should have arisen at a time when the country was so poorly prepared on the basis of experience to adopt public ownership and operation as a general policy. It is a well-known fact, however, that most of the chief cities of Great Britain went to public ownership and operation a good many years ago. London County, Birmingham, Glasgow, Liverpool, Manchester, Edinburgh, Belfast, Leeds, Sheffield, Cardiff and 100 other cities and towns of Great Britain and Ireland own and operate the tramway systems upon which they depend for local transportation service. In London the tubes and the bus lines are privately owned and operated. Private companies own and operate altogether about 100 tramway systems in the United Kingdom, but outside of Bristol, Dublin and Cork, company operation is confined for the most part to small and medium-size towns, or to special lines rendering suburban service.

The Proceedings include very little first hand testimony with respect to the financial condition of the British tramways. In my own testimony I called attention to the statement of Sir Eric Geddes, made in the House of Commons

in March, 1919, introducing the government bill for the establishment of the Ministry of Ways and Communications, to the effect that the municipal tramways were earning 7 per cent on their capital. Some doubt was thrown upon the accuracy of Sir Eric's statement by reference to a paper read at a convention of the British Tramways and Light Railways Association, July 25, 1919, by Mr. William L. Madgen, Director of the British Electric Traction Company, Ltd., a holding concern that has an interest in 25 or 30 electric tramway properties in different parts of England. A digest of Mr. Madgen's paper and of the comments upon it by other speakers at the convention was placed before the Commission by the Executive Secretary. It appears at pages 2046 to 2054 of the Proceedings. The burden of Mr. Madgen's paper was that the tramways in Great Britain are a starved industry, as a result, primarily, of governmental rate restrictions. Mr. Madgen used the tramway statistics published by the Board of Trade from returns for the fiscal year 1913-1914, and pointed out that while the gross profits were shown by these returns to be 7.03 per cent, this figure would be reduced to 3.03 per cent if 4 per cent were taken out for depreciation. Whether the statement made by Sir Eric Geddes, like Mr. Madgen's statement, was based upon the returns for the last year before the war does not appear. At any rate, the first purpose of Mr. Madgen's paper was to prove that the British tramways need more revenues, and that the way to get them is to increase the initial fare. He argues that the straight distance tariff in use in Great Britain, giving very low fares for short rides, has the effect of encouraging congestion of population and preventing the tramways from getting enough revenue. It is well known that most of the municipal tramway systems have increased their fares during the war period, but Mr. Madgen's discussion of the present condition of the British tramway industry applies, primarily, to the condition of the private companies, which, as he claims, are unable to provide new capital for extensions because their revenues are too restricted to maintain their credit. Mr. Madgen admits that "municipal corporations can obtain loans upon favorable terms because they offer to investors the security of the rates" (taxes), but he adds: "They are naturally loth to increase municipal indebtedness for the extension of services which are not likely to be remunerative unless such services are obligatory. Tramway companies cannot obtain capital for extensions unless they show that their existing enterprise is giving a reasonable return." He also says: "While a number of the municipal tramway systems show good financial returns, they are nevertheless starved, because the bulk of their net receipts are appropriated in aid of the rates (taxes), instead of being utilized in the improvement of the service." It appears from this that the trouble with the particular municipal tramways referred to is that they are profitable, but that the profits are appropriated for the relief of taxes instead of being put into extensions.

At page 2047 of the Proceedings, in the digest of Mr. Madgen's paper, reference is made to a report by Mr. J. M. McElroy, General Manager of the Tramways Department of the City of Manchester. As a matter of fact, this report was submitted in February, 1914, that is, in the pre-war period. The statement in the Proceedings is as follows:

"Mr. McElroy, in his report on the Manchester tramways, showed that the extensive improvements recommended could be financed from the tramway net receipts if the City Council would refrain from appropriating 100,000 pounds per annum for the benefit of the borough fund."

A similar statement appears in the abstract of Mr. Madgen's paper published in the *Electric Railway Journal* for August 30, 1919. Mr. McElroy is misquoted. What he actually said in his Manchester report was that the proposed improvements could be financed from the net receipts of the municipal tramways if the City Council would refrain from appropriating *more than* 100,000 pounds per annum for the reduction of taxation. It is well known that the City of Glasgow has paid off its entire tramway debt out of profits and that other British cities have made great progress in the same direction. The evidence is clear that the financial condition of the municipally owned and operated tramways in Great Britain, after five years of war, is infinitely better than the financial condition of the privately owned electric railways of this country after going through a much shorter period of war strain. The Glasgow tramways have not only paid for themselves out of earnings, but have also paid the regular taxes upon the property and have contributed several million dollars to the "Common Good" for the relief of other taxpayers.

While transportation conditions in Great Britain are undoubtedly different in many important respects from conditions in the United States, it cannot be denied that municipal ownership and operation of tramways has proven to be successful in the United Kingdom, and that no tendency has shown itself there to go back to private ownership or private operation. For what it may be worth, the experience of the British cities supports the policy of public ownership and operation here suggested as offering the solution of the electric railway problem in America.

SUMMARY ¹

I. The street railway is an essential public industry, as shown (a) by its magnitude; (b) by its relation to the public streets; (c) by the fact of public regulation, and (d) by the present appeal for public help.

II. The witnesses for the electric railways, those for the state commissions and the municipalities and those for the general public agree in the main that the street railway as an industry is in a desperate financial condition. They also agree that a fundamental requisite for relief is the restoration of its credit, so that the new capital for continued expansion of transportation facilities will be induced to flow into the business.

III. Labor is universally recognized as a vital factor in the street railway business, but the tendency is to treat the labor problem primarily as a problem of operating expense and efficiency, and to give little or no consideration to the human elements in it. The employing companies are interested in not paying more for labor than they have to pay, just the same as they are interested in keeping other expenses down. With them it is a question of financial results, and they sometimes fail to grasp the full value of loyalty and intelligent cooperation on the part of the men. From the public point of view quality of service and continuity of operation are of primary importance. All these things depend in a great measure upon the will of the workers, and require conditions of employment that will attract competent and reliable men and that will prevent industrial dissatisfaction and disputes, which lead to deterioration or interruption of service.

IV. A fundamental conception of the street railway problem, therefore, will include as coordinate requirements the need for credit with which to get capital, and the need for an effective spirit of cooperation with which to enlist the continued and efficient support of labor.

V. Under normal conditions and conservative management credit would be an easy matter for the street railways because of (a) their steady, assured and rapidly increasing revenue; (b) the conspicuous location of their property and activities; (c) their small need for working capital; (d) the fact that a depreciation reserve would be available to provide a portion of the funds needed for additions and improvements, and (e) the fact that refunding operations could be carried through as a matter of course, although the rate of interest paid might be either greater or less, as the condition of the market demanded.

VI. The testimony put forward on behalf of the electric railways with respect to the amount of new capital required each year in the industry was inexact and inconclusive. From the point of view of exaggeration the inexactness was partly due to a confusion of the needs of the electric railway with the needs of all utilities taken together, partly due to the use of capitalization

figures, and partly due to the adoption of a yearly average for the entire period from 1902 to 1917. Moreover, no consideration was given to the reduction of the demands for new capital on account of the abandonment of lines and the slowing down of traffic development under increased fares. On the other hand, from the point of view of conservatism, little or no consideration seems to have been given to the fact that under present price conditions a much greater amount of capital is required to perform a given amount of work, nor to the fact that in an era of high prices new capital is required in the process of making replacements, even where no extension or enlargement of facilities takes place.

VII. As a matter of fact, the amount of new capital required in the electric railway business at the present time is not even approximately shown by the evidence. Nevertheless, it is clear from the testimony that the restoration of credit is essential to the full performance of the function of the street railway (1) because of the increasing demands of population and traffic, requiring extensions and additions from time to time; (2) because of the continuing adjustment of the capital account to the higher price level, and (3) because of the run-down condition of many properties which demand immediate rehabilitation, for which no reserves have been accumulated. Even though rehabilitation be not considered a proper capital charge, it can be effected under existing conditions only through the use of new capital to take the place of invested capital that has been destroyed or lost.

VIII. Upon the assumption that street railway credit is gone, our search for a remedy must begin with an analysis of the fundamental and immediate causes for its disappearance. Why, in any industry so favorably situated from the point of view of credit, has credit been lost? The causes for its disappearance must be sought in the financial policies which have been followed by the industry itself, or in the attitude of the public toward it in the process of regulation, or in changed economic conditions.

IX. From the point of view of the financial policies of the industry as they affect credit, the first thing that demands attention is the almost universal practice of initial overcapitalization, particularly in the early years of electrification. The bad ultimate effects of overcapitalization have been accentuated in many cases by the process of converting stock into guaranteed securities, either through the issuance of bonds or through the assumption of rental charges in connection with the consolidation of properties, so that as time has gone on a greater proportion of the return upon the investment has taken the form of fixed charges. This policy has tended to reduce the "margin of safety" upon which private companies have to depend for new capital and to destroy the financial flexibility necessary for the preservation of solvency in a period of distress.

X. Not only by initial overcapitalization and the assumption of excessive fixed charges have the electric railway companies pursued an unsound financial policy, but also by the fact that seldom, except through duress in the case of receiverships and reorganizations, have they written off any of the excess capital originally issued. Their policy, with few exceptions, has been

to swell the capital account and to perpetuate in it any items representing intangible values or "capitalized hopes" that have once gotten into it.

XI. The companies have pursued an unsound financial policy in still another respect. Not only have they been overcapitalized at the beginning and have subsequently refused or neglected to write off their excess capitalization, but they have also generally neglected to build up a depreciation reserve equal to the difference between the legitimate investment in the plant when new and its condition when it has worn down to the normally depreciated condition of an old but efficient operating property. Thus, by the process of wear and tear, even the legitimate initial capitalization has become inflated to the extent of the normal accrued depreciation not represented by depreciation reserves.

XII. Still further, the companies, in many cases, have pursued a policy of artificially maintaining credit by paying dividends when ordinary maintenance and essential replacements were neglected or deferred, with the result that the physical property, representing the capitalization, has been further impaired, and is now in a condition where a complete general rehabilitation is necessary if adequate service is to be given.

XIII. In many localities the electric railways have been overbuilt from the point of view of an industry expected to be financially self-sustaining. This overbuilding has resulted from several causes: (1) the construction of competing lines in the same community; (2) the premature extension of lines for the special benefit of tracts of real estate in which the companies, or the men who controlled their policies, were directly interested; (3) the construction of new lines in thin territory as a result of the ambition of unscrupulous or over-optimistic promoters to get rich quickly through the exploitation of the gullibility of the investing public; (4) the use of progressively heavier cars and heavier track construction in the equipment, extension and rebuilding of lines. While these causes of overbuilding have their origin for the most part in policies for which the companies themselves have been responsible, the local authorities have often "made the motion" or "seconded" it as a result of their conception of public needs or personal advantage.

XIV. As a result of overcapitalization and its attendant evils based upon the idea that the street railway was a fruitful field for speculative investment, the street railway industry fell into the control largely of investment bankers, whose profits were dependent upon the volume of securities turned out and a frequent turnover in the companies' financial arrangements. These policies led to absentee ownership of street railway securities and the formation of holding companies for the inflation and exploitation of street railway credit. The sound principle of simple corporate organization, direct financial responsibility, and community ownership of community enterprises was entirely lost sight of, so that the underlying support of local pride and local interest in the successful construction and operation of transportation facilities responsive to local needs was lost. Thus the companies themselves abandoned and alienated the most substantial source of ultimate credit for a public utility.

XV. From the point of view of public relations and the responsibility of the public through its governmental agencies for conditions that have helped

to destroy the credit of the street railways, the first thing to be mentioned is the fixed five-cent fare, which, in the earlier days, was generally made a condition of street railway franchises. The fixed fare, which had no particular relation to the necessary cost of service and certainly provided no flexibility for the adjustment of the fares to the changes in the cost of service, either up or down, was the cornerstone of speculation in the industry at a time when a guaranteed five-cent fare over a long period or in perpetuity was supposed to represent an opportunity for enormous profit. In urban areas the fixed fare was a temptation to speculation and overcapitalization. It aided and abetted the street railway companies in the adoption and pursuit of the unsound financial policies above described.

XVI. As a result of the arbitrary and corrupt methods often pursued by street railway promoters in securing franchises with the five-cent fare provision in them, and on account of the enormous overcapitalization which street railway promoters indulged in, the public was led to believe that the street railways, out of their use of public property as rights of way, were exploiting the public and reaping unreasonable rewards. The public, claiming the rights of partnership, invoked the taxing power as a means of diverting to the public treasury a portion of the earnings of the business, and in communities where new franchises or renewals of old franchises were sought, the granting of these "favors" was made the occasion for loading upon the companies financial burdens and obligations which it was thought would in some measure be compensatory for the value of the privileges granted.

XVII. But the public was not satisfied to use the taxing power alone. It demanded adequate service as well as a share in the profits. As the franchises granted were in most cases irrevocable, and as the street railways could not be subjected to effective competition, the public laid hold of the police power as a weapon for enforcing the obligations of monopoly and compelling the companies to extend and improve their service. Thus the companies found that, though limited to the five-cent fare, they were not free to scamp the service at will in order to swell their profits, but could be compelled to enlarge and improve it indefinitely, at least so long as they were financially able to do so, and largely without regard to the amount of profits left for the investors.

XVIII. The public also, as a result of its observation of the evils of overcapitalization and speculation in public utilities, including the electric railways, created the public service commissions and conferred upon them authority to regulate new issues of securities and prohibited the issuance of securities not representing new cash put into the business for capital purposes. At the same time the commissions were not authorized to reorganize the companies and cut down the capitalization already outstanding. Thus the public required a new and more conservative method of financing with respect to capital additions, without a reconstruction of the existing financial base. The companies, therefore, no longer had the advantages, precarious and unsound though they were, of the old methods of financing, while at the same time they were unable to issue new securities upon a basis independent of the inflated securities already out. The "margin of safety," within the limits of a reasonable return upon the

investment, was in many cases noticeably decreased as a result of this incomplete and imperfect form of public regulation.

XIX. The causes for the decline of street railway credit thus far enumerated have arisen out of the financial policies adopted by the street railways themselves or out of the policies of regulation adopted by the public, and so far as these policies were unsound those responsible for their adoption and continuance must share the responsibility for the present condition of street railway credit. Still another set of causes can be found by an analysis of economic conditions.

XX. For a long time the public tried to secure the benefit of competition in the street railway business, not recognizing that it was a monopoly by nature. But with the appeal to the police power to compel improved service, the public recognized in a more or less formal and legal way the existence of monopoly as a necessary fact. Just as this recognition was becoming general, the development of the automobile brought into the field for the first time an effective and dangerous competitor of the street railways. In other words, when the public got around to recognize the existence of monopoly in local transportation service the development of the automobile partially reestablished the condition of competition which, in theory, had just been discarded. In many communities it has been fully recognized that the two methods of local transportation cannot survive on a self-sustaining basis as competitors. The inroads made by this new form of transportation upon the actual traffic and revenues of street railways in many communities, and the resulting uncertainty as to the future of the electric railway, reacted seriously upon the credit of the industry.

XXI. In the old days, the profits of street railway operation were dependent in large measure upon low wages, long hours, and unsatisfactory conditions of work for the employes. Gradually, as time went on, the employes, in part as a result of general public favor, became more and more organized, and were in a position to demand higher wages, shorter hours, and more expensive protection and privileges from their employers. This tendency, of course, has been greatly accentuated since the beginning of the war and as one of the results of war conditions. Nevertheless, the tendency existed before the war, and the uncertainty of the labor element in its relation to the management was a factor of increasing importance in disturbing the hopes of those who had gone into the street railway business as speculators, and had capitalized the future. Disappointed hopes in the industry, even when such hopes were at the beginning illegitimate or unwarranted, had a tendency to restrict the credit of the industry and to cool the ardor of new investors to go into it.

XXII. All these forces conspiring together to impair street railway credit would have effectively destroyed it long before the war, if it had not been made so nearly indestructible by the character of the industry itself and by the enormous development of the demand for urban transportation. It is by no means surprising that the Great War put the finishing touches on the job. The fundamental basis of credit at all times is security for the investment and its present and prospective net earning power. Any sudden great expansion in the cost of service that is not accompanied by a corresponding increase in revenues must

adversely affect the present earning power of the investment, and if the prospect is for the permanence or long continuance of these adverse conditions, then they result in reducing the ultimate security and the prospective earning power of the investment. The effect of the war upon general economic conditions has been to increase the cost of materials entering into street railway construction, maintenance and operation probably to an even greater extent than wages have increased. It is now generally expected that, because of world-wide economic changes, the high prices of materials, the high cost of living, and the consequent relatively high wages will continue for a considerable period, at least for a period longer than the companies can hope to survive and perform their functions without the use of credit.

XXIII. Having admitted the necessity for credit in the street railway business, and having analyzed the causes that have led to its disappearance, we come to a discussion of the question: How can credit be restored? A variety of remedies have been proposed by witnesses speaking on behalf of the electric railways, on behalf of the regulating commissions, or on behalf of the general public. It is agreed with practical unanimity that the electric railways have come to be essentially public agencies, and that the function of local transportation is so vital to the welfare of every urban community as to make it a community problem. It is generally agreed that if credit cannot be restored under private ownership and operation it is inevitable that public ownership and public operation, one or both, will have to come. The fear expressed by many of the witnesses that the results obtainable from public ownership and operation would be unsatisfactory from the point of view of economy and efficiency was not strong enough to make these witnesses admit that they would prefer to have the electric railways disappear rather than be owned and operated by governmental bodies as a public function.

XXIV. The testimony reflected the fundamental divergence in the economic theories and points of view of the witnesses. Many expressed confidence that under public ownership the street railways would not be economically and efficiently operated, and viewed with strong aversion the possible ultimate necessity for the adoption of public ownership as a general policy. Other witnesses, taking the point of view that local transportation is an essential public function, expressed the belief that public ownership is not only inevitable because of the inherent difficulties of continuing private ownership and the practical impossibility of restoring private credit in the business, but also because public ownership and operation are inherently logical and desirable with respect to such a function as local transportation.

XXV. There is a general agreement that the public relations of the electric railway industry prior to the war and before the present acute crisis arose were unsatisfactory; that, in fact, the electric railway industry got started wrong; that it got "in bad" with the public; that the cooperation of the public is essential to the full performance of electric railway service upon a sound financial basis; and that to restore the credit of the companies and to enable them to function, an entirely new deal is required.

XXVI. The first requisite for the restoration of credit in the view of the

witnesses for the electric railways is a readjustment of the relation between revenues and expenses so as to increase the margin available for return on capital. Obviously, this can be accomplished only (1) by an increase in revenues or (2) by a decrease in expenses.

XXVII. The electric railway companies propose to increase their revenues first by increasing the unit fares. In this way they hope (1) to escape from the principle of the fixed fare, as embodied in the five-cent limitation, and (2) to secure an immediate increase in earnings.

XXVIII. The proposal to increase unit fares raises two vital points: (1) the effect of straight fare increases upon revenues, and (2) the effect of straight fare increases upon the usefulness of the street railway as a public utility. As a remedy, fare increases are useless unless they provide additional revenue, and in fact they may injure credit if they indicate the inability of the electric railways to earn the full cost of service at any fare that may be charged. From the public point of view, fare increases are a failure if they result in a serious and progressive curtailment of the use of street railway service.

XXIX. As an alternative to straight fare increases, the adoption of a zone system or distance tariff is put forward by some of the witnesses as a means for raising more revenue through (1) the cultivation of short haul traffic and (2) the establishment of charges for long rides proportional to the cost of the service rendered. This proposal raises a fundamental question as to the relative effects of the uniform fare policy and the zone fare policy upon the distribution of population and business and upon the development of realty values.

XXX. Another proposed measure for increasing the margin available for return on capital is the removal of special tax burdens and franchise obligations from the electric railways, leaving them either upon the same basis as other industries, or giving them special exemptions on account of the importance of the function they perform and their peculiar relations to the public and the public streets. This proposal raises certain grave questions: (1) the sufficiency of the relief that could be granted in this way; (2) the legal and financial difficulties, from the point of view of the government bodies, in the way of giving up these sources of revenue; and (3) the political difficulty of relieving a public utility from these burdens or of granting it special exemptions while it remains in private hands.

XXXI. Still another means proposed for increasing the margin available for return upon capital is the adoption of operating economies such as (1) a rearrangement of car schedules for the elimination of duplicating or unnecessary service, excessive layovers, etc.; (2) a rerouting of cars for the elimination of useless or dead car mileage and the avoidance of street congestion and delays; (3) the skip stop for increasing speed and decreasing power consumption; (4) the training and supervision of motormen in the saving of power; (5) the use of light one-man safety cars as a means of decreasing platform expense, power consumption, accident expense and track and car maintenance; (6) the elimination of collusive contracts for the purchase of materials and supplies, or power; and (7) the abandonment of electricity as a motive power and the use of gasoline or alcohol in its place along the lines promised by Henry Ford.

XXXII. It is also proposed on behalf of the electric railways that jitney competition be curtailed or abolished, and that the street railway be given protection as a legalized monopoly in the rendering of local transportation service. This proposal raises (1) the question as to whether or not automobile buses may under certain conditions be more economical and efficient as a means of transportation than the electric railways are, and (2) the question as to how far the public may properly go in restricting competition in order to give the electric railways under private ownership and operation a monopoly.

XXXIII. Another suggested method of enlarging electric railway income is by the establishment of cooperative relations between the management and the employes. In this way it is contended that the interest of the employes can be enlisted in efficiency and economy and in the sale of transportation service, and the losses through "knocking down" of fares and through strikes minimized or entirely done away with.

XXXIV. The serious objection to high fares or, in the alternative, the abandonment of electric railway service altogether in certain communities has led to the suggestion that the revenues of the street railways be supplemented out of taxation, on the ground that business men and property owners receive great benefits from electric railway service even where they never ride on the street cars. It is the idea that these subsidies from taxation should be made to prevent the abandonment of unprofitable lines or to keep the fares down to a reasonable level on lines that could be made self-supporting with high fares. On account of constitutional difficulties in the way of subsidizing private enterprise, and on account of inherent objections to such a policy, this plan may not be practicable in some jurisdictions except under public ownership or public management.

XXXV. As a means of getting the electric railway business upon a conservative basis, the abandonment of duplicating and unprofitable lines is suggested. This plan involves the difficulties and disadvantages inherent in a plan for taking away transit facilities from communities or portions of communities whose development and present social and industrial arrangements are largely dependent on them. It also raises a question as to where the line is to be drawn with respect to street railway extensions. To what extent do the obligations of monopoly within a given transportation area require a symmetrical and complete development of transportation service, with little or no regard to the profitability of individual lines?

XXXVI. On the part of the public the suggestion is made that capital in the electric railway industry has received too great a return in the past, and that the restoration of street railway credit requires among other things a complete reorganization of the financial structure of the companies and the scaling down of their fixed charges to a conservative basis. It is urged that bankruptcy in many cases may be absolutely necessary as a condition precedent to the restoration of credit on a sound basis.

XXXVII. The witnesses generally recognize the improbability that the credit of the electric railways can be completely restored by any one of the measures heretofore mentioned taken by itself, and that even a combination of as

many of them as are compatible with one another may not be effective for this purpose. A fundamental readjustment of the relations between the electric railways and the public is regarded as essential.

XXXVIII. There is general agreement that the first fundamental step in such a readjustment in each particular case is the determination of the amount of the investment upon which the electric railway should be permitted to earn a return. This raises a multitude of different questions as to the correct principles of valuation, as to which there are radical differences of opinion. In general, the companies claim value on the basis of reproduction cost of the physical property at the time of the determination without any deduction on account of depreciation, and with large additions for intangibles to cover superseded property and past deficiencies below a liberal rate of return from the beginning of the enterprise. In the reproduction cost, they include liberal structural overheads, together with big allowances for such items as promoter's remuneration, brokerage and preliminary expenses in the organization and development of the project. Specifically, they maintain that the purchasing power of the dollar having decreased under war conditions, the valuation should be made on the basis of the "last-minute" prices. If the historical cost method is used as an alternative to the reproduction cost method of fixing present value, the companies would include every dollar that has gone into the enterprise from the beginning, regardless of the present condition of the property, plus the capitalized services of promoters and bankers and deficiencies below a liberal return from the beginning of the enterprise cumulated at compound interest. The public, on the other hand, inclines toward the amount of capital actually and prudently invested in existing useful property less accrued depreciation as the proper measure of the capital to be recognized as the basis for the proposed new relationship between the communities and the companies. Here is the big problem to be solved before any fundamental readjustment of the status of the electric railway industry can be effected.

XXXIX. The next step in the proposed readjustment is the determination of the rate of return to be allowed upon the recognized investment. It is generally admitted that under private management, the rate of return must be sufficient in connection with the security offered to induce investors to put new capital into the electric railway industry as it is required from time to time. Here we are confronted with several specific problems: (1) Shall the rate of return be fixed for a long period of years or shall it be flexible so as to adjust itself to changing market conditions? (2) Shall the same rate be allowed upon the capital already in the industry as may be required to induce new capital to flow into it? (3) Shall the rate of return be definitely limited and guaranteed, or shall a leeway be left for the encouragement of economical management? (4) Is a rate of return that will induce private capital to flow into the street railway industry at the present time so high as to be prohibitive? The rate of return applied to the valuation determines the compensation of capital, so that the two factors must be considered together in the determination of the basis for the final result.

XI. One suggestion is that the new deal between the public and the electric railways shall merely be the removal of contractual restrictions and the trans-

fer of all remaining local powers of regulation to the state commissions so that they can take full responsibility on behalf of the public for so regulating the industry as to keep it solvent and efficient. This plan is met by certain objections: (1) that electric railway transportation is primarily a local function; (2) that under private management financial success is impossible without the good will and cooperation of the people who ride and the local authorities in control of the streets; (3) that each municipality, as a matter of right and of good public policy, should determine the amount and character of the local transportation service to be rendered and the way it is to be paid for; and (4) that exclusive state regulation may interfere with the development of a policy of ultimate municipal ownership based upon contractual relations between the municipalities and the companies. Another objection to exclusive state regulation may be that it falls short of meeting the present situation where a guaranty of earning power or, at least, of power to pay the allowed return on capital is essential to the restoration of electric railway credit.

XLI. The inherent limitations upon the security of the investment, and the uncertainty that the companies will earn a fair return without a guaranty, have given great impetus to the service-at-cost plan based upon contracts with the municipalities or the states, under which the companies will be practically guaranteed a fixed return upon their investment, either through a flexible system of fares, or through a fixed fare supplemented by public subsidies or otherwise. It is recognized that the service-at-cost plan as exemplified in the Cleveland street railway settlement of ten years ago has worked greatly to the advantage of the company in the preservation of its credit, and has been more beneficial to the public than any other plan thus far tried in this country over a considerable period of time on an important scale under private ownership. The service-at-cost plan, with all its proven merits in the Cleveland case, has not worked so well elsewhere. Its success seems to depend upon certain factors which are largely peculiar to Cleveland: (1) a conservative initial valuation and a relatively low rate of return on the investment; (2) an unusual degree of local pride and confidence in the justness of the settlement, making public and official cooperation with the company possible and effective; (3) a policy with respect to replacements that prevents the inflation of the capital account in a period of rising prices; (4) a relatively low fare to start with, so that, when costs increase, the fares will not become excessive. A general objection to the service-at-cost plan is that it is calculated to weaken the motive for efficiency and economy in operation under private management and to put upon the public regulatory authorities the responsibility for enforcing these street railway virtues by indirect means to the same extent as they would be called upon to enforce them directly under public management. Another objection is that, even under so good a service-at-cost plan as the one in force in Cleveland, it has been deemed necessary to increase the rate of return upon capital to seven per cent.² Moreover, the Cleveland plan, after being modified from time to time in favor of the company, is tending more and more toward a perpetuation of private management and a weakening of public control, which is everywhere becoming more and more vital to the public welfare. It is to be noted also that the service-at-cost plan sub-

stitutes a semi-automatic control of rates for the continuous power of regulation by state commissions, and establishes local control of service, so that under this plan the necessary functions of the state commissions with respect to street railways are reduced nearly to the vanishing point.

XLII. The final solution advocated by many of the witnesses, and admitted by the rest as the ultimate alternative, in case their particular plans do not succeed, is public ownership and operation by the municipalities, by the states, or by specially created transportation districts. It is admitted that public ownership and operation, under adequate constitutional and statutory provisions, would be able to provide the credit necessary to enable the electric railways to continue functioning.

XLIII. We now come to the question of labor. During the war the supply of labor was short in the street railway business as in many other industries. It cannot be said, however, that there has ever been for a prolonged period any particular difficulty in securing men to operate street railways. The condition at the present time is that the wages paid are nominally much higher than they were before the war, and that during 1919 there was an epidemic of strikes, resulting in great losses of revenue and generally in radical advances in wages, sometimes with a provision for back pay. While the National War Labor Board was in existence, there was a national agency to which both parties could appeal for the arbitration of wage questions. Now that the War Labor Board has gone out of existence, no such agency will be present to meet the problems that arise as the contracts between the local divisions of the Amalgamated Association and the employing companies expire from time to time. The industry is more thoroughly unionized than it ever was before, and the men are in a stronger position by reason of the fact that a strike is not relatively so serious a matter from the public point of view as it used to be before the advent of the automobile. At the present time a pretty good sized city can get along for a few days without street railway service, and the interruption of this service is less likely to stimulate the social disorders that in former times almost universally attended a street railway strike. It is perhaps increasingly difficult for the companies to "break" strikes. If the cost of living goes on climbing, or even continues at its present high level, it is to be expected that as their yearly contracts expire many of the unions will demand further increases in wages, and that this will drive the companies that are not already in bankruptcy closer to the verge of it, if the men's demands are granted. This may follow, irrespective of any fare increases, because it is not yet certain that during the present era of high prices, the street railway industry as a whole can be made to pay the full cost of service that is involved in higher wages along with the high prices paid for materials and money. From the point of view of the labor problem, therefore, the present condition of the street railway industry contains the seeds of trouble not only for the people financially interested in the industry, but also for the general public. For the latter there is the double danger of increasing cost of service on the one hand, and of paralysis of service through industrial conflicts on the other.

XLIV. Perhaps the major cause of the labor difficulty, aside from the

general increase in labor costs, is the fact that heretofore in the relations between the public and the companies as fixed in the franchises, the employes have been for the most part ignored. The companies have undertaken for a consideration to perform a public function and to deliver service, and the public has had no direct relation with the men, leaving them to be employed and discharged by the companies, without any public interference. But the recognized necessity for continuous service has brought things, during the war period, to a pass where it is seen to be essential that the employes of the street railway companies acquire a full sense of public responsibility and get away from the position of mere wage earners in private employment, with no concern as to the relations between their employers and the general public.

XLV. One of the remedies proposed is the establishment of public tribunals through which wages and the hours and conditions of labor may be fixed by public authority, coupled with the enactment of laws to prohibit and penalize strikes in the street railway field. This remedy is generally opposed by organized labor which regards "the right to strike," even in industries where continuity of operation is essential to public convenience, as their indefeasible ultimate guaranty of adequate wages and satisfactory conditions of work.

XLVI. Another remedy is based on the right claimed by the Amalgamated Association of Street and Electric Railway Employes to the universal recognition of the union, a living wage, and the eight hour day, with the relations between the companies and the employes determined by contracts annually renewed, with arbitration of any differences by special boards of arbitration established from time to time in the local communities, and with the men reserving the right to strike in case the companies refuse to grant their fundamental demands or refuse to submit to arbitration any differences that may arise, or refuse to abide by the results of an arbitration.

XLVII. Another remedy proposed is to give the employes the right to participate in the management. This would change in part the present relationship between the men and their employers. Those who propose this plan advocate it on the theory that participation in management would give the men an interest in efficiency, economy and continuity of service, and a sense of responsibility both to the public and to the investors which, as mere employes, they cannot feel.

XLVIII. Another remedy proposed for the labor problem in the electric railway industry is public ownership and operation, under which the employes would become civil servants and have all the advantages and be subject to all the restrictions which inhere in that relationship.

XLIX. The street railway problem as a whole cannot be solved merely by the solution of the problem of credit and it cannot be solved merely by the solution of the labor problem. Each reacts upon the other. Both must be included in a coordinate way in the final solution, and any solution arrived at must meet the fundamental requirements that the street railways exist primarily for service rather than for profits, since they have become a public function absolutely essential to the public welfare and for which the community itself must assume the ultimate and final responsibility for self-help.

L. In seeking a solution of the electric railway problem the only possible

choices are these: (1) to abandon the theory of public interest in the industry and abrogate the practice of public regulation with respect to it, leaving the electric railways to work out their own salvation as a private speculative business enterprise; (2) to continue and perfect the theory and practice of public regulation by the complete elimination of contractual relations, at least so far as they relate to the value of the property, the rate of return to capital, the extent and quality of service to be rendered and the compensation therefor; (3) to establish a more intimate contractual relation between the companies and the public than has heretofore existed, based upon some form of the service-at-cost plan, with service controlled under most conditions by the municipalities, and fares regulated more or less automatically without the intervention of state commissions; or (4) public operation or both public operation and public ownership.

LI. Quite a number of witnesses complained of the bad effects of public regulation as it has heretofore been practiced, and it was even suggested that all restrictions be removed from the electric railways in order that they might battle to the death with their new competitor, the automobile. The idea was that only by such removal of restrictions can the ultimate relative merits of the electric railway and the gasoline motor car be tested out. The overwhelming weight of testimony, however, was clearly adverse to such a policy. To most of the witnesses it would be unthinkable that the public should "wash its hands of" the electric railways and relegate them into the position of a purely private industry.

LII. The policy of complete and exclusive state regulation, freed from the limitations imposed by municipal contracts, could hardly be carried out to its logical conclusion except on the assumption that the municipalities have no special local interest in electric railway service, and that the present status of private ownership and operation is to be continued indefinitely. Moreover, state regulation, as it has thus far been developed, holds out no adequate assurance that it will be able to restore and maintain the credit of the electric railways, or that it will be able to preserve continuity of service through a solution of the labor problem. At best, state regulation gives the industry an opportunity to earn a fair return upon the investment if the industry can be made self-sustaining from the rates. Public regulation can give no guaranty, and in an emergency like the present one is compelled gradually to withdraw the hand of control and permit the companies to do whatever seems necessary to enable them to work out of their financial difficulties.

LIII. A contractual relationship fixing the investment value of the property, and the allowed rate of return to the investors, with provisions assuring to the companies that their investment will be protected and their annual return upon it earned or paid, might have the effect of restoring the companies' credit and of enabling them to go on in the performance of their functions. This solution of the problem involves the elimination of the element of risk and of chance for reward, which lie at the very foundation of private initiative. The service-at-cost plan is pre-eminently suited to public enterprise in which the idea of profit is entirely absent. When it takes the form of a contract between the municipality or the state and the electric railway, it is designed as a means to avoid the necessity of public ownership and operation, on the theory that private ownership and

operation are better. It is admitted on all sides that most serious evils have resulted from the treatment of the electric railways as a speculative industry, and that both from the public point of view and from the point of view of the investors, ultimate salvation lies in security. The fundamental purpose of the service-at-cost plan is to remove the speculative element, but in doing so it removes the very condition which is put forward as the chief reason for a continuation of private management in the case of an industry which is universally recognized to have become a public function.

LIV. The character of the electric railway industry, the impossibility of leaving it to be carried on as a private business, the failure of public regulation to solve the problem advantageously either for the electric railway companies or for the public, the inherent limitations of the service-at-cost plan, the impracticability of dealing effectively with the labor problem under private management, and the fact that the cost of capital without the support of public credit has become prohibitive, all point to the conclusion that, with respect to local transportation, public ownership and operation are an ultimate necessity. A program of public ownership and operation will not be easily carried out. A careful and prolonged consideration of the problem reveals no easy solution of it. It is clear, however, that the industry cannot be put upon its feet and the public interests served except through the adoption of a definite, comprehensive and constructive policy. No such policy has been suggested that does not have ultimate public ownership as its goal. It is, perhaps, unfortunate that the prejudice of controlling public opinion against public ownership of public utilities, and the immense vested interests in the electric railways and other utilities, have during the past erected legal, contractual and financial barriers in the way of the adoption of this policy. Even in a crisis these barriers cannot be overcome without great difficulty. In the present state of the laws governing municipal action, and in the present state of municipal finances, it is quite obvious that public ownership of the electric railways as a general program cannot be effected short of a considerable period of years, unless it is brought about by a compelling emergency that brooks no delay. Whatever temporary measures may be recommended or adopted for immediate relief, it is essential that such measures shall not in any way interfere with the adoption of a program looking to the permanent solution of the problem, and that there should be no postponement of the initial steps in the work that will take the longest. For this reason, a declaration should now be made of the ultimate necessity of public ownership and operation, and public attention should now be directed toward the specific problem of legal, financial and administrative preparation for it. It seems clear that, no matter how soon the program is initiated, the necessity for its application will arrive before the communities are fully prepared.



APPENDIX A

LOCAL TRANSPORTATION ISSUES IN
NEW JERSEY

BY

DELOS F. WILCOX, PH.D.

- (1) Letter to Messrs. Read and Bugbee, June 2, 1920.
- (2) Letter to Governor Edwards, July 19, 1920.
- (3) Local Transportation Issues:

I.—Public Service Railway Company's Attack on the Jitneys a Move toward
Higher Trolley Fares.

II.—Public control over Public Services at Stake in the Present Crisis.

III.—Conflicting Theories of Valuation and the Results They Bring.

IV.—A Definite and Constructive State Policy Needed.



APPENDIX A

(1) LETTER TO MESSRS. READ AND BUGBEE

Elmhurst, N. Y.,
June 2, 1920.

Hon. William T. Read, State Treasurer,
Hon. Newton A. K. Bugbee, State Comptroller,
Valuation Commissioners,
Trenton, N. J.

Dear Sirs:

I am writing you as members of the Valuation Commission appointed by the legislature by Chapter 351 of the Laws of 1920, providing for the valuation of street railway property in New Jersey.

In 1918 I was engaged as chief expert for the New Jersey State League of Municipalities in the proceedings before the Board of Public Utility Commissioners upon the application of the Public Service Railway Company for emergency relief. In that proceeding the summary of the Cooley valuation was produced by the company at the request of the Commission, but was not proven by the testimony of Dean Cooley or any of his assistants. It was marked as an exhibit in the case, but we had only a limited opportunity to examine it. The Commission, in its orders of July 10 and September 25, 1918, disregarded the Cooley appraisal on the ground that it had not been proven and was not properly in evidence.

Again, in 1919, when the Public Service Railway Company filed its zone report and asked the Commission to fix permanent rates, I was engaged by the City of Newark and the Associated Municipalities as chief expert representing the municipalities. In this 1919 proceeding (still pending) the Public Service Railway Company, as you doubtless know, submitted the Cooley appraisal and supported it by the evidence of Dean Cooley himself, his associate, Professor Henry C. Anderson, and the various real estate experts who were employed by Dean Cooley to appraise the Public Service Railway lands. The company also introduced expert testimony in support of or supplementing this appraisal by representatives of the engineering and utility management firms of Ford, Bacon & Davis, The J. G. White Management Corporation, Stone & Webster and Sander-son & Porter; also a number of other witnesses, both consulting engineers and men engaged in the financing of public utilities. On the part of the municipalities we made an analysis of the actual cost of the Public Service Railway properties, so far as it could be ascertained from the books and records now available, and also made an analysis and criticism of Cooley's valuation. Our estimate of the fair present worth of the property for rate purposes was a little under \$60,000,000. The Stone & Webster man who testified in February of this

year put the value up to \$180,000,000, and another engineer, Mr. Harold Almert, who fixed the fair value at \$165,000,000, indicated that he was restrained from making it \$220,000,000 or \$230,000,000 merely by the knowledge that such a valuation would necessitate a rate of fare so high as to defeat itself.

The wide range in the estimates of value presented by the various witnesses before the Commission are accounted for primarily by differences in theories of valuation. It is my understanding that one of the fundamental functions of courts and public service commissions before which testimony in rate cases is taken is to weigh all of the evidence, take into consideration all of the pertinent and proven facts, decide what are the correct and legal rules in the application of the several methods of appraisal and finally determine, on the basis of all these factors, what in their judgment is the fair present value for rate purposes of the property devoted to the public service in the case before them. This function of the court or the commission is a governmental function of the highest type. It requires independence, public responsibility, a full and unprejudiced consideration of the claims of the company and the rights of the public. The performance of this function at the present time is peculiarly difficult because of the unsettled condition of valuation law, the conflicting precedents and, above all, the extraordinary conditions which now prevail as a result of war prices.

With all of these things in view, I have read with profound astonishment the provisions of Chapter 351 of the Laws of 1920, under which the Governor, the State Treasurer and the State Comptroller are designated as a commission to procure the valuation of street railway property in New Jersey. This law, as I read it, is based upon the fallacious assumption that the fair value of a public utility property for rate purposes is a *fact* which any firm of experienced and competent engineers can go out and ascertain, whereas the truth is, as I have already pointed out, that the determination of the value of such a property is not an engineering but a governmental function, and depends upon the weighing of a great number of different facts by a body clothed with governmental power and public responsibility. If I read the valuation act correctly, it directs the Valuation Commission to farm out to some engineering firm for a price the performance of this governmental function. Your Commission seems to be directed to make provision for government by contract. It would be no more radical departure from established governmental procedure if Congress, wearying of the delay of the United States Supreme Court in deciding the constitutionality of the Volstead Act, should pass a law directing the President, the Comptroller of the Currency and the Secretary of Labor or three other executive officials to employ a legal firm, of experience and standing in the examination of constitutional questions, to look into the circumstances under which the Eighteenth Amendment and the Volstead Act were adopted and to render an exhaustive and final opinion upon their constitutionality, with the provision that upon the delivery of this opinion to the executive commission appointed for the purpose, it should be immediately transmitted to the Supreme Court with the instruction that the court should accept and be bound by the opinion so prepared and delivered. If this comparison is thought to be far-fetched,

we can make another that will illustrate my point just as well. The Interstate Commerce Commission has for several years been engaged in the valuation of the railroads of the United States. The work is not completed, and yet there is urgent need for the fixing of value as a basis for the immediate readjustment of freight and passenger rates. It would be an almost exact parallel to the provisions of the New Jersey law if Congress had directed an executive commission of three men to make a contract with an engineering firm to make a valuation of the railroads of the United States, with the provision that when the valuation was completed and nicely bound up in a volume or series of volumes, with a blue ribbon on it, it should be delivered to the executive commission and by that commission transmitted, without examination or the exercise of any act of judgment, to the Interstate Commerce Commission and thereafter should be accepted by the Interstate Commerce Commission as the basis for rate fixing.

It is almost unbelievable that a legislature representing the people of a great and enlightened state like New Jersey should have put upon the statute books such an outrageous measure. I am not a constitutional lawyer, but if there is anywhere tucked away in the articles of either the Federal Constitution or the State Constitution of New Jersey any guaranty of protection for the public in the valuation of public utilities and the fixing of public utility rates, I feel sure that this act runs contrary to that guaranty.

I speak in this emphatic manner because for many years in public employment and in the pursuit of my profession I have been striving for the establishment and recognition of sound public policies in the public utility field, and because, in connection with the proceedings still pending before the Board of Public Utility Commissioners, large expense has been incurred in the preparation and presentation of a case based upon our conception of public rights and fair and just regulation, and because I see that it is now proposed under this law that your commission shall hand over to some engineering firm—it may be for all the public knows one of the firms that have already supplied witnesses in support of the Public Service Railway's contentions in this very case¹—the governmental function of determining the value of the property for rate purposes, by which determination the public bodies of the state of New Jersey, to which the municipalities have to look for justice, shall be bound. As I read the new law, there is no provision for public hearings or proof or cross-examination of witnesses, and your commission is not even authorized to retain the valuation report in its possession long enough to read it. The determination will be the determination of an engineering firm hired to perform a public function, without supervision, without responsibility, without public hearings and even without testimony.²

I have seen in the newspapers the report that the Governor has declined to serve on the commission, and it is for this reason that I am addressing this letter to you as the other members of the commission.³

Very truly yours,

DELOS F. WILCOX.

(2) LETTER TO GOVERNOR EDWARDS

July 19, 1920.

Hon. Edward I. Edwards, Governor,
Trenton, New Jersey.

Dear Sir:

A few weeks ago, as you probably know, I addressed a letter to Hon. William T. Read and Hon. Newton A. K. Bugbee as members of the Street Railway Valuation Commission designated by Chapter 351 of the laws of 1920. I did not address that communication to you as Chairman of the Commission for the reason that your definite refusal to act in that capacity had come to my attention.

I am now transmitting to you as Governor a review of the local transportation issues in New Jersey as I see them. Not being a resident of the state, I ought to explain my connection with the problem.

Several years ago, at the request of Senator Carlton B. Pierce, I drafted an indeterminate franchise bill which was introduced in the New Jersey legislature in 1912 and at one or two subsequent sessions, but never got through. It was strongly opposed by the Public Service Corporation. Later, at the time when the Public Service Newark Terminal project was under discussion, I was invited by the Newark Evening News to make a report upon the project and upon the numerous franchises then under consideration by the Board of Street and Water Commissioners of the City of Newark. My report appeared in a series of articles published in the News in July, 1913. In January, 1918, after the Newark Terminal had been in operation for two years and had failed to solve the transit problem in Newark, I was asked by the News to make another survey. In the intervening years Port Newark had been developed and jitney competition had come in as new factors in the problem. My second report was published in the News as a series of articles in April, 1918. In March of that year the Public Service Railway Company, taking advantage of the decision of the Court of Errors and Appeals in the Collingswood Sewerage Case, had filed with the Board of Public Utility Commissioners an application for permission to abandon the five-cent fare and install a seven-cent fare, with a charge for transfers. The New Jersey State League of Municipalities determined to oppose this application, and I was employed as its chief expert in the proceeding. Hon. Marshall Van Winkle and Hon. George L. Record were the counsel for the League in this case. Again, in 1919, when the Public Service Railway Company submitted its zone report and filed with the Utilities Board an entirely new schedule of rates, based upon the zone

plan, I was retained by the City of Newark and the Associated Municipalities as their chief expert in general charge of the case, under the direction of Hon. Frank H. Sommer, their special counsel.

As a result of this series of employments I have been pretty familiar with street railway developments in New Jersey during the past few years, and feel that I owe a certain responsibility to the state and municipal authorities which at least demands that I lay before you, as Governor, a review of the Public Service Railway rate proceedings, with a statement of what I conceive to be the most important issues involved. I might also add that during the past few months I have been engaged in a study and analysis of the entire street railway situation of the country for the Federal Electric Railways Commission. In this connection I have had an exceptional opportunity to familiarize myself with the claims being advanced by all the principal parties to the electric railway controversy: the companies themselves, the banking interests, the employes, the public service commissions, the municipalities, and the special students of the problem. As a result of this study, coming on top of my prolonged connection with the New Jersey proceedings, I am fully convinced that nowhere in the country is the electric railway problem more important, more complex and more difficult than in the State of New Jersey. As everywhere else, the valuation of the property devoted to public use is the essential first step in the formulation of an adequate public policy with respect to local transportation service. For this reason, and also because of the confusion that has been injected into the situation by the recent passage of the Street Railway Valuation Act, I have taken considerable pains to analyze and set forth the conflicting claims of the Public Service Railway Company and of the municipalities as presented in the record of the rate case.

The review transmitted herewith I have entitled, "Local Transportation Issues in New Jersey." It is divided into four sections, as follows:

- I. Public Service Railway Company's attack on the jitneys a move toward higher trolley fares.
- II. Public control over public services at stake in the present crisis.
- III. Conflicting theories of valuation and the results they bring.
- IV. A definite and constructive state policy needed.

Respectfully,

DELOS F. WILCOX.

(3) LOCAL TRANSPORTATION ISSUES IN NEW JERSEY

I.

PUBLIC SERVICE RAILWAY COMPANY'S ATTACK ON THE JITNEYS A MOVE TOWARD HIGHER TROLLEY FARES

The Public Service Railway Company is trying to put the jitneys out of business. It has filed complaints in the Court of Chancery against 36 jitney operators in as many different municipalities. In these complaints it alleges that it is suffering immeasurable and irreparable damages from jitney competition and prays that the defendants be enjoined from continuing such competition.⁴ The company alleges that its business represents an investment of more than \$150,000,000 and that, largely as a result of the unlawful competition and interference with its business by the jitneys, it is not earning a fair return upon this investment.

This move against the jitneys is undoubtedly preparatory for a ten-cent trolley fare. The claim of an investment of more than \$150,000,000 falls in very nicely with the legislative plan clearing the way for an unsupervised and unchecked valuation to be made by some firm of friendly engineers, skilled in the art of giving substance to the intangible, and is obviously calculated to secure ultimate official recognition of a value so high as to place the Public Service Railway forever beyond the pale of effective regulation. The correctness of these conclusions will be made clear by a review of the statistics of jitney competition in Newark, of the evidence in the Public Service Railway rate proceedings before the Utilities Board, and of the terms of the street railway valuation act of 1920.

Danforth Called Jitneys a Godsend in 1918

In the Emergency Rate case, General Manager Richard E. Danforth testified on May 17, 1918, that in his opinion the jitneys at that time were taking in at least a million dollars a year in competition with the Public Service Railway lines. He added that during the preceding 12 or 15 months the rush-hour competition had been a "godsend" to the company, because it did not itself have the facilities to handle the traffic. If, during the most critical period of the war, jitney competition at the rush hour could be described as a "godsend" to the Public Service Railway Company, what must it have been under such circumstances to the public!

Immense Growth of Jitney Traffic in Newark

Licensed jitneys have now been operating in New Jersey for a period of four years. The statistics of jitney traffic in the City of Newark, as reported

to the city treasurer, are full of import to the Public Service Railway Company. The figures are as follows:

<i>Twelve Months' Period</i>	<i>Total Number of Jitney Passengers</i>	<i>Average Number of Passengers per Day</i>
June, 1916, to May, 1917.....	6,559,678	17,971
June, 1917, to May, 1918.....	10,342,673	28,336
June, 1918, to May, 1919.....	24,323,265	66,639
June, 1919, to May, 1920.....	39,868,377	108,930

The Newark jitneys carried 490,000 passengers in June, 1916, 3,000,000 in June, 1919, and 3,837,000 in May, 1920.⁵ When the Public Service Railway Company put in the seven-cent fare in October, 1918, the jitney traffic jumped; when the Public Service Railway Company had a six-day strike in March, 1919, the jitney traffic jumped again; when the Public Service Railway Company installed the experimental zoning scheme in September, 1919, the jitney traffic jumped higher yet—in fact, it reached a maximum of 4,005,000 in October, 1919. But with the restoration of the flat seven-cent fare last December jitney traffic in Newark fell off a little. It had a big slump in February, 1920, the month of snow and ice; but in May, as we have seen, it was up again almost to the October maximum.

The evidence is clear that jitney competition is no longer regarded by the Public Service Railway Company as a godsend. On the contrary, its increase is viewed with great alarm and the jitneys are regarded as a major obstacle in the way of Public Service Railway prosperity. Not only do the jitneys take an immense amount of traffic which the street cars would otherwise get, but while jitney competition continues the Public Service Railway Company does not dare to inaugurate further increases in the trolley fare; for such increases, under existing conditions, would defeat themselves by driving away a still greater amount of traffic to the Railway Company's competitors. In connection with its zoning studies the company had occasion to investigate the amount of traffic that the jitneys were then carrying and to estimate the effect of jitney competition under the proposed zone system of fares on the street cars. On April 24, 1919, in the course of his testimony before the Utilities Board, Mr. Danforth said:

"My estimate is that jitneys today are doing a business at an average of four million dollars a year, and that means that they are carrying eighty million passengers. That is nearly 25 per cent of the number of passengers Public Service expects to carry under the zone rate of fare. In other words, one out of every five people are using jitneys, and the disturbing feature is that these are the short riders, that the jitneys are operating along street railway lines and on street railway tracks where there is the greatest amount of passenger traffic and they run only so far along the line as they can afford to run and break even. They take our short-haul business and they leave for the Railway the long-haul business."

Indeed, during the study of the company's zoning plan made by the experts for the Associated Municipalities, a memorandum prepared by Mr. Danforth under date of April 11, 1919, came into the possession of Dr. Robert H. Whitten, and was introduced by him in evidence in his testimony on behalf of the Municipalities. In this memorandum Mr. Danforth estimated that the total number of jitneys in operation in the principal cities served by the Public

Service Railway Company on April 1, 1919, was 793, of which 328 were in Newark, 220 in Jersey City, 77 in Hoboken, 39 in Paterson, 20 in Passaic, 53 in Elizabeth, 5 in New Brunswick, 6 in Plainfield and 45 in Camden.

"A check of the passengers carried by jitneys," said this memorandum, "seems to indicate that buses operating along trolley lines earn \$7,300 per year per bus in the larger cities. * * * * Taking a conservative figure, it is safe to assume that 750 buses would earn in excess of \$4,000,000 per annum and carry 80,000,000 passengers. If this number of passengers were carried on Railway cars under the zone system, allowing for the average ride of each jitney passenger of 1½ miles, the revenue derived from such passengers would be \$4,800,000. It is safe to assume that at least one-half of these passengers (surely those riding in non-rush hours) would be carried in cars now operated by Railway."

On this basis Mr. Danforth figured out that the Railway Company would need to incur a total additional operating expense of only \$1,360,000 to enable it to take care of all the jitney traffic, from which it would derive an additional gross revenue of \$4,800,000, leaving \$3,440,000 as the estimated figure representing the net profit that would come to the Railway Company from the elimination of jitney competition. This, Mr. Danforth said, would be nearly one cent for each cash passenger then being carried by the railway.

Low Fares for Short Rides under Zone Plan Were Expected to Overcome Jitney Competition

It was the theory of the Utilities Board, and, indeed, of all parties in the case who looked with any favor at all upon a zoning plan, that low fares for short rides would tend to develop the short-haul traffic and curtail or eliminate jitney competition; but the zone fare experiments put into effect in September and November, 1919, proved to be egregious failures from every point of view. Neither of these plans had the effect of attracting short-haul traffic, and while they were in operation the jitneys thrived as never before. The zone plan was put into effect with improvised facilities for collection; the fares charged were unsatisfactory and unjust; the scheme was too inflexible and not properly adjusted to local conditions in different communities; the service was slowed down; and, in general, public opinion was outraged. Under these circumstances the zoning idea did not get a fair trial and the hope of meeting jitney competition through a zone system of fares went glimmering.

Flat Nine-cent Fare Hardly Sufficient, Said McCarter a Year Ago

The Public Service Railway Company, in its famous zone report filed with the Utilities Board in March, 1919, had proposed a schedule of fares that, according to the company's estimates, would yield a passenger revenue of \$25,390,000 for the year ending June 30, 1920, with an income of \$7,162,000 after the payment of operating expenses, taxes, and allowances for depreciation reserve. With bond interest, rentals and other fixed charges estimated at \$5,350,000, the company figured that under the proposed rates it would earn a surplus of \$1,812,000 available for dividends on its common stock, held by the Public Service Corporation. On July 29, 1919, while the company's original zone application was still being considered, Mr. Thomas N. McCarter, President of the Corporation and also of the Railway Company, came before

the Utilities Board with the statement that an award of the National War Labor Board, made a short time previously, had the effect of increasing the company's pay rolls to the extent of \$1,175,000 a year over the pay rolls taken into account in the zone report. At that time Mr. McCarter said:

"If we are to make up this additional amount and at the same time provide any measure of return, such as has been contemplated throughout the proceeding, to the Railway Company, to accomplish that end, if indeed that will do it, will take a 9-cent fare with a penny for a transfer. Now, if the Commission says so, we are ready to put that rate into effect, but I deprecate it. I think in the first place * * * * it does not produce enough money, but if it did, it means that the company would fall short of performing its functions to a large number of people, because the estimate of traffic is that whereas the rate filed under the zone system contemplates something like 308,000,000 passengers carried, under the suggested 9-cent flat fare with a penny for a transfer the number of passengers, according to our best light, would only be 242,000,000. While the money might be produced to keep the ship going, the company would not perform its functions simply to the extent and in the manner that it would like to perform its functions, and this would be the parting, as the Commission can readily see, from all idea of a zoning system. It would be going into a higher flat fare than has ever been tried anywhere except in Boston where they now have a 10-cent fare, and I think in Pittsburgh they now have a 10-cent fare, but as to Boston, it is far from satisfactory to the public."

Zone Plan in the Discard and Company Losing Money under Seven-Cent Fare

The ill-fated zoning experiment, with the three-cent minimum charge for a mile ride, the abolition of transfers and the rapid piling up of fares for long-distance riding, was put into effect in September, 1919, as an alternative to the flat 9-cent fare which, in the company's opinion, would have been barely sufficient to "keep the ship going." To provide what the company regarded as the minimum return that would enable it to remain solvent required a surplus in excess of fixed charges of approximately \$2,000,000 a year, or \$167,000 per month. The surplus for August, 1919, while the company was preparing to put the zone experiment into effect, was \$54,000; in September, with the zone plan in effect for 17 out of 30 days, a deficiency of \$130,000 was incurred; in October, the deficiency was \$305,000, and in November, \$255,000. The 7-cent fare was restored on December 7, 1919, and although December was generally a month of high traffic on the electric railways of the country, the Public Service Railway still earned a deficiency of \$14,000 in that month. In January, 1920, the deficiency was \$109,000; in February, \$141,000, and in March, \$64,000; but in April the tide turned again and showed a surplus of \$108,000. If from the date when Mr. McCarter appeared before the Utilities Board stating that a 9-cent flat fare would scarcely be sufficient to enable the Public Service Railway to keep on its feet, until April 30, 1920, a period of 9 months, the company had earned the minimum which Mr. McCarter regarded as necessary, it would have earned approximately \$2,350,000 more than it actually did earn. In other words, during the 9 months of experimentation following Mr. McCarter's declaration of July 29, 1919, the company was accumulating a deficiency at the rate of \$3,140,000 a year below the minimum which, according to his claims at that time, was necessary to keep the company in healthy financial condition. But this includes the bad months when zone fares were in effect. If we take only the first four months of 1920, with the seven-cent fare in effect during the entire time, the shortage was accumulating at the rate of about \$2,600,000 a year.

Now, it so happens that in the month of April, 1920, a new wage increase was granted, effective the first of May, which, according to the company's statement, will increase the pay rolls to the extent of \$1,200,000 annually. Under the new wage schedule, unless the company succeeds in effecting important economies, it will claim an increase of approximately \$3,800,000 in annual net income, over what it has been earning recently with the seven-cent fare, as the minimum necessary to keep the ship going.⁶

Ten-cent fare in Prospect if Jitneys Are Eliminated

If Mr. Danforth's 1919 estimates were correct, the recovery for the street cars of the entire amount of the traffic then being taken by the jitneys would pretty nearly make up this deficiency without the necessity for a further increase in the fare. But obviously, the Public Service Railway would not get all of the present jitney traffic, even if the jitneys were entirely eliminated, as much of this traffic originates at points where street car facilities are now inadequate. Also, it must be kept in mind that the surplus over fixed charges demanded by the Public Service Railway Company in its zone report and in its subsequent applications for immediate relief, is not by any means a measure of what it claims that it is entitled to earn under the established principles of regulation. It is not 4 per cent on its common stock, but 8 per cent upon the entire value of the property operated by it, that measures the company's claim. The value for rate purposes fixed by its various witnesses has a range of many millions, but the average would be at least \$150,000,000, and that is the minimum investment figure set up in its bills of complaint against the jitneys. Eight per cent on this amount would be \$12,000,000 a year, or \$4,728,000 more than the minimum amount upon which Mr. McCarter's nine-cent fare estimate was based. Obviously, even with the jitneys eliminated, while present operating costs continue, the Public Service Railway Company is headed for reorganization or for a fare of ten cents or more.⁷

The Public Service Railway Company, the Public Service Corporation and Mr. Thomas N. McCarter personally are playing for great stakes. They do not dare to increase the fare above seven cents under present conditions, because, while jitney operation continues, the short-haul street-car riders, if they are driven from the street cars by a further increase in fares, will have two alternatives—they may walk, or they may take a bus. If the buses are driven out their only choice will be to walk. Without a doubt the falling off in street car traffic as a result of a further increase in street car fares will be much less if active jitney competition is eliminated than it would be with buses running.

With Competition Gone No Known Limit on Value of Service

It may be also that the Public Service Railway Company has another thing in mind. There is an old and theoretically well-established rule of the courts and the regulatory commissions to the effect that charges for a public utility service must not be higher than the service is reasonably worth. Even though the company may not be earning a fair return upon the value of the property

devoted to public use, its charges are restricted by this upper limit. The rule in this respect was stated by Mr. Justice Swayze in his celebrated opinion in the Passaic Gas Case, where he says:

"On the one hand, a just and reasonable rate can never exceed, perhaps can rarely equal, the value of the service to the consumer. On the other hand, it can never be made by compulsion of public authority so low as to amount to confiscation. A just and reasonable rate must ordinarily fall somewhere between these two extremes, so as to allow both sides to profit by the conduct of the business and the improvements of methods and increase of efficiency. Justice to the consumer ordinarily would require a rate somewhat less than the full value of the service to him; and justice to the company would ordinarily require a rate above the point at which it would become confiscatory."

In this opinion Justice Swayze assumes that the value of the service will always be greater than the cost of the service, but in 1913, when the Passaic Gas Case was decided, nobody could foresee the tremendous revolution in the condition of public utility service that has since come about as a result of the war. It is now very far from certain that in the street railway business the reasonable value of the service to the car rider is always greater than its cost. Under these circumstances the commissions and the courts will be called upon to establish criteria of the worth of street railway service, and what criterion could be so readily applied or have so plausible a basis as the fares charged by competing jitney buses for rendering similar service? So long as the jitneys remain in active competition with the street railways, ready to carry passengers at a five-cent fare, even though their operations be restricted to the comparatively short-haul business, they tend to establish a standard price, a limit beyond which, under the principles of rate regulation, the electric railways may not be permitted to go, at least for the short hauls. And with the zoning plan down and out, the uniform flat fare has to be fixed at a point where it will not be unreasonable even for those who ride short distances.

The Public Service Railway Company, therefore, has a triple purpose in trying to drive the jitneys out. First, and most obviously, it will regain some of the traffic which the jitneys have taken away from it; second, it will be rid of the active competition that tends to make further fare increases ineffective and disastrous to the company; and third, it will remove from sight, and ultimately from mind, the competitive service that tends to fix the maximum value above which local transportation fares may not go under the rules laid down by the courts and the utilities commissions.

Public Service Railway Claims Franchise Value Equivalent to Watered Stock

The people of New Jersey have supposed that they were free from the danger of the capitalization of franchise values as a basis for rate-fixing. It is generally assumed that the question was settled in favor of the public and against the companies in the Passaic Gas Case, but in that case the company did not exhaust its devices. It carried the case to the United States Supreme Court, but discontinued it before argument, and the United States Supreme Court has not finally determined the extent to which franchise values are to be taken into consideration in fixing rates. In the Consolidated Gas Case,

indeed, the court held that the company, under the laws of New York, was entitled to earn a fair return on nearly \$8,000,000 of franchise value the same as on any other portion of its property. What the court would do with the consolidation and franchise values of the Public Service Railway system, capitalized in the old days of 20-to-1 exchanges about which Accountant Mark Wolff has given such vivid testimony, lies on the lap of the gods. That the Public Service Railway Company does not itself admit the correctness of the conclusion reached by the courts of New Jersey in the Passaic Gas Case with respect to franchise values was demonstrated at the hearing before the Utilities Board in the pending rate case on February 27, 1920, when Senator Edmund W. Wakelee, counsel for the company, formally placed upon the record the following statement:

"The Supreme Court of this state held in the Passaic Gas rate case that franchises of utility corporations, including the right to use the public highways in their business, are property, but property of such a peculiar kind that their value should not be taken into account in estimating the value of the property of such corporations for the purpose of fixing rates (84 N. J. L. 463). The Court of Errors reversed the judgment of the Supreme Court (84 N. J. L. 581). Subsequently, upon rehearing the Court of Errors reversed its decision (87 N. J. L. 597) and adopted the opinion of the Supreme Court as its opinion. * * * * The Supreme Court of the United States, however, has held that such franchises are property and their value must be taken into account in ascertaining the value of the property of a public utility corporation, for the purpose of fixing rates.

"In this state of the law we insist that the value of the franchises of Public Service Railway Company must be taken into account in ascertaining the value of its property in the present hearing; that if the value of such franchises is not taken into account rights of the Railway Company secured by the constitution of this state and of the United States would be violated. The value of such franchises can best be ascertained by including them in the value of all the property of the corporation to which they appertain; that the best evidence of the value of the property of such a corporation, including all the elements of its property, is shown by leases and consolidation agreements, leases for 900 years being substantially sales, and prices fixed by voluntary sales of property are universally recognized as the best evidence of value. In this matter the consolidation agreements in evidence and leases show the value of the property now owned by Public Service Railway Company at the time when such leases and consolidation agreements were made, respectively, and the company insists that the best evidence and plenary evidence of the value of its property at the time when those leases and consolidation agreements were made is contained therein."

Clearly, the Public Service Railway Company does not intend to miss a trick.

The company has already been freed by action of the legislature, of the Utilities Board and of the courts from the fare limitations which it and its predecessors voluntarily assumed in consideration of the franchises granted to them by the municipalities. These franchises in almost every case run in perpetuity. With jitney competition removed, the franchises will be not only perpetual and free from rate limitations, but also, to all intents and purposes, exclusive. The Utilities Board will have no effective power of rate regulation for the reason that no matter how high the fares may go the company, on the basis of its excessive valuation, will be able to claim that it is not earning more than it is entitled to. Furthermore, with the jitanys out of the way, it will be very difficult, if not impossible, for the Utilities Board to establish an upper limit above which the fare would be considered as more than the service is worth. The result will be that the people of New Jersey for all time to come will have the choice of riding on the Public Service Railway cars at whatever

rates of fare the company may choose to charge, or of providing their own private vehicles if they do not prefer to walk.

Regulation Should Be Effective Before Monopoly is Granted

From what has been said it might be inferred that monopoly in transportation service is regarded as an evil and that, particularly, jitney competition should be staunchly preserved. This does not follow. Local transportation service should be developed in an orderly and economical way. Jitneys ought not to be permitted to destroy the electric railway when they are unable to take its place. Common carrier service by motor buses should be developed as an auxiliary to the street car, not as a competitor with it. Nevertheless, a private monopoly upon which a great community is dependent for an essential public service, when such a monopoly has manœuvred itself into a position where it cannot be effectively regulated in the public interest, is intolerable. The Public Service Railway Company aspires to monopoly; and indeed monopoly in local transportation service has great advantages from the viewpoint of ability to render adequate service at minimum cost. But before New Jersey establishes or reestablishes monopoly in the hands of the Public Service Railway Company it ought to make sure that the service will in fact be adequate and that the cost will in fact be kept down to a minimum. The state cannot have any such assurance until the value of the company's property devoted to public use and the rate of return to be allowed upon it have been established upon a reasonable and conservative basis; nor until some guaranty of operating efficiency and of timely expansion to meet the community's increasing transit needs is secured. Otherwise, the company will be in a position to flout the community in any effort that it may hereafter make through the Utilities Board or any other agency for the protection of essential public rights.

II.

PUBLIC CONTROL OVER PUBLIC SERVICES AT STAKE IN THE PRESENT CRISIS

Shall New Jersey establish a local transportation monopoly, hoping that effective regulation will follow, or shall it establish effective regulation first and then see about monopoly afterwards?

Most of the electric railways of the country are undoubtedly in financial distress. Their present critical condition is due in part to financial mismanagement and in part to public hostility that has developed out of their sordid past; but even the best of management, coupled with the greatest good will on the part of the public, would not entirely relieve them of the difficulties growing out of the extraordinary times upon which they have now fallen. Still, the weakness they have developed under the new conditions resulting from the war has proven beyond a doubt that their financial structure is unsound and

that their public relations from the beginning have been wrong. The electric railways themselves everywhere are demanding relief from the voluntary contracts which they made in their days of prosperity or hope of prosperity, and are saying that as public servants they cannot continue to "carry on" upon the old terms and conditions. They assert that if they are to fulfill the function of an essential public utility they must be given a new deal all around.

Danger that Cost of Street Railway Service Will Become Prohibitive

The investors have already been hard hit by a tremendous shrinkage in the market value of their securities and the credit of the industry has practically disappeared. On many street railway properties maintenance is being neglected and service curtailed. With credit gone, the expansion of street railway facilities is necessarily at a standstill, and with revenues insufficient, physical properties are drifting toward a state of general disintegration. If this process continues the old investors will suffer further loss, and the street railways themselves will ultimately go to pieces unless arrangements are made for their general rehabilitation—and that means an enormous amount of new capital which cannot be secured at all without further guaranties from the public. Wages are still going up and the prices of materials are not yet coming down. Scarcity of free capital and the insecurity of street railway investments are pressing to drive the cost of money for street railway purposes to a new high level. All these things combine to bring the cost of street railway service nearer and nearer to the point where it will become prohibitive. The financial condition of the local transportation industry is chaotic, and everywhere there is a sense of impending danger, not only of irretrievable losses to the investors, but also of the failure of an essential public function at a time when the normal demands upon it are greater than ever. As the census returns for 1920 come in, it becomes apparent that in spite of war and pestilence and the slackening of immigration the tide of population toward the cities is still running strong throughout the country. This means that urban transportation problems are necessarily becoming more critical from year to year and that the financial paralysis of the electric railway cannot but have a far-reaching effect upon the entire group of social, economic and political problems that have their origin in urban congestion.

Companies' Financial Embarrassment Threatens Breakdown of Regulation

Under these conditions there is grave danger that the very distress in which the street railway companies now find themselves and the unreadiness of the public to assume any effective initiative in the solution of the transportation problem will result in a complete breakdown of regulation. Urban communities everywhere are likely to find themselves in the position where they recognize the essential character of local transportation service but are unwilling to do anything about it in the direction of self-help. In that case the financially-broken companies will be in a stronger position than they ever were before, and the new street railway settlements brought about under these

circumstances are likely to be upon the terms and conditions which the companies prescribe. For once poverty will be power.

Control versus Cooperation

There is great confusion in the public mind as to the true relations between the community and the public utilities. We find everywhere, either latent or active, a sharp antagonism growing out of the fact that the public is primarily interested in service, while the companies necessarily have their eye on profits. At the same time the cry is raised by the so-called conservative elements of the community—the “boosters”—that the real interests of the community and of the companies are identical and that cooperation should be the watchword. This plea for cooperation has a strong appeal to those who are impressed with the disadvantages of constant bickering and recrimination, but still remain firm believers in the theory that public utilities should be privately owned and operated. But to those who look more deeply into the relations between the community and the street railway companies it is apparent that cooperation is not the final word. It is impossible to escape from the fact that the community and the utility corporation cannot work together as partners unless one of them is to keep silence and “go along with” the other. The conflict between the motive of service and the motive of profit is irreconcilable—one or the other must be subdued. It is for this reason that the public cannot tolerate a public service corporation in any other position than a subordinate one. The proper relation of the community to its public servants is one of control, and whatever cooperation is practicable or necessary must be effected on that basis.

It is not the people of New Jersey alone who are confronted with this complex and baffling problem of utility control; yet the Public Service Corporation of New Jersey and the Public Service Railway Company stand at the very forefront in the street railway world and present to the people of the state a problem quite unique in importance, though not entirely different in kind from the electric railway problems of other states. Where else can we find such a vast number of municipalities, comprising three-fourths of the population of a great commonwealth, bound together in common dependence upon a compact family of private corporations, not for transportation service alone, but for three services of such transcendent importance as transportation, gas, and electric light and power? New Jersey is the Argonne Forest in the battle line between the Allies loosely joined together in the struggle for democracy and the Central Powers representing the alleged efficiencies of centralization and absolutism.

The Old Question: Shall Corporations or the Government Prevail?

While the great battles of the World War were fought to make the world safe for democracy, the state of New Jersey has a big fight on its hands to achieve democracy for itself and save it for the world. In this period of upheaval, when every civilized nation is seething with unrest and when the common people who earn their bread each day and have little or no reserve for periods of sickness, unemployment and old age, have everywhere become restive toward militarism,

capitalism and the restraints of government, the future of democracy depends to an extraordinary degree upon the ability of the English-speaking peoples, and particularly upon the ability of the Americans, to solve their social, economic and political problems through orderly processes of evolution instead of being led or driven into disorderly and futile processes of revolution. The Civil War was fought, more than anything else, to prove the superior authority of the nation as a whole, imbued with a determination to protect the common welfare, over a great, concentrated, arrogant property interest that would recognize no political, social or industrial rights unless they were subordinated to the perpetuation of slavery and to the continued exploitation of a subject race by the capitalists of the South. Following the close of the Civil War, partly as a result of economic disturbances and the violent readjustment of values through changes in the purchasing power of money, and partly through the subordination, for the time being, of all political issues not related directly to the abolition of slavery and the maintenance of the Union, a period ensued during which the railroads and other great corporations developed enormous power in the nation and often used it, unhappily, for sinister purposes. Thirty years or more ago the great political interrogation was this: Are the corporations, representing private interests, to remain more powerful than the government itself, representing the public interest, or will some way be found to subdue their political and industrial arrogance and compel them to serve the public? Through a long series of political and industrial conflicts the country was in the process of answering that question when the World War broke upon us and our thoughts were turned to military and international issues. The big war, with its tremendous wastes; with its world-wide upsetting of economic conditions; with the standard of values everywhere changed and the commercial and industrial world shaken to its foundations, has been the occasion for the revival of the old interrogation with a new sense of national peril unless the question can be answered effectively and answered right.

Complete Subordination to Public Interest Theoretically Admitted in New Jersey

The public utility corporations are our much restricted, much distressed, much feared and much hated servants. They perform the most intimate public functions of urban civilization. We cannot dispense with their services unless we are willing to help ourselves, and as communities we seem to be weak in muscle and untrained in mind to do the work that must be done. In New Jersey the corporations engaged in the exploitation of the public need for local transportation and for light, heat and power have taken on the livery of heaven; they have christened themselves public servants, and in apparent humility have proclaimed their enterprises undertaken and perpetually carried on for the public good. We have the *Public Service* Corporation, the *Public Service* Gas Company, the *Public Service* Electric Company, the *Public Service* Railroad Company and the *Public Service* Railway Company—the *Public Service* family. Indeed, the companies collectively have come to refer to themselves and to be referred to simply as *Public Service*, which naturally would connote their complete identification with the public interest. Theoretically, the case for public control and

for the absolute subordination of private interest to the public welfare in connection with these utilities is placed beyond the need of argument by the admissions of the very companies engaged in the performance of these several functions. Yet the history of the State of New Jersey during the past seventeen years suggests the pertinent and persistent question as to whether these public servants, with all their insignia of humility, may not have become public masters and may not now be striving, as potently as ever, to perfect and maintain their public mastery.

Origin of State Regulation

It was only a few years after the organization of the Public Service Corporation of New Jersey that the unbearable arrogance and inefficiency of public utility corporations everywhere gave rise to the movement, originating in Wisconsin under the leadership of Senator La Follette and in New York under the leadership of Governor Hughes, for the establishment of political machinery through which the strong arm of the state, clothed with the powers of sovereignty, could effectively curb the private-mindedness of these public servants and effectively promote in them the habit of diligence about the public business in which they were supposed to be engaged. The theory that gave rise to the enactment of the state public utility laws and to the creation of state utility commissions was that the essential nature and the public character of utility services should be established beyond peradventure, and that public service corporations should be clothed with the dignity and the responsibility of public servants and should be given the public protection corresponding to their position. It was the theory of state regulation that every public utility should be required to render adequate public service at reasonable rates, and should at the same time be put in a position of reasonable security against the destruction, impairment or seizure of its property devoted to public use, and be given a reasonable assurance that so long as its property continued to be devoted to the public use it would be permitted to earn a fair return upon it.

While the general principles of state regulation are reasonably clear, their enunciation leaves for determination in each individual case a number of issues of fundamental importance and extraordinary difficulty. What is adequate service? What is the value of the property devoted to public use? What is a fair rate of return upon it? What public cooperation shall be given the utility? What is a reasonable charge for the service rendered? These are the big questions that plague regulatory commissions everywhere. These are the rocks upon which the good ship Public Regulation, unless steered by wise and valiant helmsmen, founders.

Failures of Regulation in Present Emergency

Since 1911 the theory and practice of public utility regulation by a state commission has been on trial in New Jersey, but it was not until early in 1918 that the full jurisdiction of the Utilities Board over the charges of street railway companies was established by the courts of the state. Prior to that time it had been supposed that the municipal contracts limiting the rates of fare were binding upon the railway companies and could not be abrogated by the Utilities Board

itself. Therefore, it cannot be said that with respect to local transportation rates the theory of state regulation has had any trial in New Jersey under normal conditions. During the past two years, since the problem of fare fixing was dropped into the lap of the Utilities Board, the electric railways everywhere have been contending with abnormal difficulties. All the schemes of public regulation and control under private ownership are breaking down because of their inability to cope with the extraordinary conditions growing out of the war. Even in Massachusetts, where the state commission was supposed to have full jurisdiction and where the financial problem of the electric railways was recognized as critical several years before the era of abnormal war costs, state regulation has signally failed to solve the problem in a way to satisfy at one and the same time the legitimate needs of the investors and the imperative requirements of the community with respect to this supremely important public service. State regulation has nowhere been entirely successful in meeting the crisis. In some cases the authority of the commissions has been too much restricted; in other cases the commissions may not have acted with enough promptness and decision; in still others, it may be, a solution of the problem lay not so much beyond the authority as beyond the inherent power of the commissions. It is not surprising that the supreme test of state regulation in New Jersey came with the rate proceedings initiated by the Public Service Railway Company in 1918 and 1919.

The "Public Service" Family and the State

The operating companies in the Public Service family render essential public services in more than 140 municipalities, ranging from small villages up to the great metropolitan cities of the state. They collect revenues amounting to more than \$60,000,000 a year. Their net capitalization is in the neighborhood of \$300,000,000. The Public Service Railway Company is the most important of the operating companies, not only because its \$25,000,000 of annual revenue is greater than the revenue of either the gas company or the electric company, but also because the relative importance of street railway transportation is even greater when consideration is given to the number of financial contacts between the different utilities and the public. Gas and electric light and power consumers pay for their service monthly; the car riders pay their bills whenever they ride. The number of electric meters in use on the Public Service Electric Company's system at the end of 1919 was a little less than 200,000 and represented about 2,400,000 individual financial contacts with the consumers during the year. The number of gas meters in use on the Public Service Gas Company's system was 538,000, representing more than 6,000,000 financial contacts in a year. But the number of electric railway rides given by the Public Service Railway Company was about 390,000,000, of which nearly every one represented a separate financial contact with a car rider. Street railway service is the most democratic of utility services, and street railway fares always bulk large in the public eye.

In the common parlance of denunciation, the Public Service Corporation of New Jersey "owns the state," and the Public Service Railway Company, more than either of the two other principal subsidiary companies, typifies that ownership and control. It is not altogether uncommon in the United States to find a town

built up by a single industry, with "the company" dominant in the business, social and political affairs of the community. For example, Bethlehem dwells in the shadow of the Bethlehem Steel Company. In much the same way New Jersey as a state lives in the shadow of the Public Service Corporation. Here, if anywhere, the question as to whether the government shall control the utilities, or the utilities control the government, is acute and persistent.

Fighting to Avoid Reorganization

The management of the Public Service Corporation belongs to what is known as the "old school" in public utilities. It stands for the "consolidation of the gains" made in the early days of electric railway development by the bold buccaners who sought to exploit for profit the rapidly growing need for urban transportation on the basis of a purely private enterprise. Back of the Public Service Railway Company lies a decade or more of financial manipulation that takes rank among the historic street railway scandals of the country. The Public Service Corporation was organized in 1903 as a means of preventing the collapse and reorganization of the old street railway companies, which were then on the brink of financial ruin. The principal trolley lines now included in the Public Service Railway system have not gone through the bankruptcy and reorganization which, in view of their financial history, would have been appropriate for them. They have been saved thus far, and this gives the key to an understanding of the present trolley situation in New Jersey and of the extraordinary difficulties which surround the efforts of the state to establish an effective policy of public regulation.

Let us now turn to a more detailed consideration of the fundamental issues with which state regulation is confronted in its relation to the Public Service Railway Company.

Public Service Railway's Record of Inadequate Service

First, what is the adequate service which the communities of New Jersey are entitled to demand from the company? In 1913, prior to the outbreak of the European War, traffic congestion at Broad and Market Streets in the City of Newark had reached a point where it seriously interfered with the free movement of the Public Service Railway Company's cars during the rush hours, which are always the hours of greatest need in the local transportation field. Out of this condition, out of the desire of the Public Service Corporation to house itself and its subsidiaries conveniently and conspicuously, and out of its desire to secure ample railway terminal facilities on private property adjacent to the Morris Canal, against the day when the canal would be abandoned and its right of way could be secured for rapid transit purposes, grew the Public Service Newark Terminal project—splendid, expensive and, from the point of view of public service, unsatisfactory. The Public Service Newark Terminal did not solve the problem of adequate trolley service in the New Jersey metropolis. The re-routing of cars at the time of the opening of the terminal in 1916 gave partial and temporary relief to the Four Corners, but signally failed to provide adequate street car facilities for handling the immense traffic that originates at the Tubes

station. Again, after the United States entered the war, the development of ship building and other war activities on the meadows and at Port Newark found the Public Service Railway Company unprepared to handle the new traffic created by these new industrial developments. It was not until September, 1918, when the war was nearly over, that the company, thanks to advances made by the United States Shipping Board, finally got a line open to Port Newark. In the early months of that year, when the workers at Port Newark had no street railway facilities, it was a sight for gods and men to see the rout of humanity overflowing jitney buses, automobile trucks and every imaginable type of vehicle, swarming up Bay Avenue in its daily exodus from Port Newark.

A "Brilliant Future" Predicted Four Years Ago

I am not familiar in detail with the failures of the Public Service Railway Company to render adequate service in other communities to which its lines extend, but these failures in the city of Newark will suffice to explain in part the hearty welcome that has been extended to the jitneys and the extraordinary development of jitney traffic. In the summer of 1916, just after the Newark Terminal was opened, Professor Mortimer E. Cooley, in submitting to the Public Service Corporation his report on the value of the Public Service Railway property, made the following remarkable statement:

"The property of the Public Service Railway Company has been created by the merger of a number of smaller properties; some of them have been purchased outright, while others are being operated under long-term leases. A number of additions by new construction have been made since the merger. * * * * The company is also building what is probably the largest electric railway terminal in the country. When completed, it is expected to solve the transportation problem in Newark for the next twenty or twenty-five years. This terminal is one illustration of how the management is planning for the future of these great properties. * * * *

"The properties in general are well located, well constructed, and well maintained, and, judging from general observation, their management is all that could be desired.

"The possibilities for extensions and growth of these properties are almost unlimited. With a few exceptions the municipalities served by the company have in the past had a very large increase in population each year, and all indications point to a continuance of these conditions. * * * *

"A very careful study of the conditions surrounding this property, made during the past year, leads to the belief that few, if any, electric railway properties in the United States can anticipate a more brilliant future than that of the Public Service Railway Company."

Surely it cannot be said that the Public Service Railway Company, in the enjoyment of perpetual franchises, located in so exceptional a street railway traffic area, and supported by the powerful hand of the Public Service Corporation, could not have been expected to provide the facilities reasonably required for the satisfaction of the transportation needs of the City of Newark and its sister municipalities. It is clear that state regulation, through the Utilities Board or otherwise, signally failed to compel the Public Service Railway Company to perform its full function as a transportation utility endowed with perpetual and, to all intents and purposes, exclusive franchise rights in the public streets of 140 municipalities. Under these circumstances, and within a year after Dean Cooley filed his report, jitney competition had become a "godsend" to the Public Service Railway, as Mr. Danforth said, because of the inability of the railway to render the required service.

It is obvious that the Public Service Railway is not entitled to a complete monopoly on the score of the transportation facilities and service which it has heretofore furnished.

III.

CONFLICTING THEORIES OF VALUATION AND THE RESULTS THEY BRING

I have referred to adequacy of street railway service as the first test of the effectiveness of public regulation where monopoly is to be recognized.

The second fundamental test of regulation comes in the establishment of the value of the property devoted by the utility to public use. This is everywhere the crucial question in the adjustment of the public relations of a street railway or any other public utility company. Without a determination of the value that the public is bound to recognize, there is no proper basis for the determination of reasonable rates and no proper basis for the control of capitalization, there is no criterion for fixing the burdens of taxation, and above all no measure of the community's ultimate obligation to the investors in case it should become necessary to transfer the utility from private to public ownership.

Escape from Five-Cent Fare Limitation Looked Forward to for Years

The Public Service Railway Company is the heir of a numerous and motley group of street railway corporations. It has 119 names in its family tree. From the predecessor companies to which the municipalities had given franchises it inherited the privileges and the obligations of the 5-cent fare and the free transfer. The aggregate price paid for the consolidation of street railway properties from the bank of the Hudson opposite New York to the bank of the Delaware opposite Philadelphia into a single operating unit was enormous. The rental burdens, assumed for periods ranging from 900 years to perpetuity, amount to more than \$2,800,000 a year, and, coupled with the interest charges on bonds secured by the property of the constituent companies, make up a total of more than \$5,000,000 a year of fixed charges. With these heavy burdens upon its back, the Public Service Railway Company began to feel years ago the limitation of the 5-cent fare, and it was a hope of the Public Service Corporation that state regulation as established by the Utilities Act of 1911 would eventually result in the release of the Railway Company from the fare limitations contained in the municipal contracts. For several years the Public Service family watched quietly but expectantly the development of regulatory policies as outlined by the Utilities Board and as prescribed by the courts.

The Cooley Valuation Procured in Anticipation of the Opportunity to Use It

In 1915, without any particular purpose, as Mr. McCarter subsequently maintained, but still with an eye to the time when the jurisdiction of the Utilities Board over the rates of fare prescribed by the franchise contracts should be

established, the Public Service Corporation determined to have a valuation made of the railway property owned or controlled by the Public Service Railway Company. Without waiting for a rate proceeding, the Corporation engaged the services of Professor Mortimer E. Cooley, Dean of the Colleges of Engineering and Architecture of the University of Michigan.

Cooley's History and Characteristics as an Appraisal Engineer

Dean Cooley is a celebrated engineer whose career as a street railway appraiser was initiated more than twenty years ago in the valuation of a portion of the Detroit Street Railway property for the municipal ownership commission, of which Hazen S. Pingree was the head. It is noteworthy that while Tom Johnson was still a street railway corporation magnate, Pingree was fighting the public's battle for low fares and municipal ownership in Detroit, and it was in the Pingree school that Dean Cooley got his start. However, since 1899 he has come to have a very keen and sympathetic interest in the point of view of the corporations. In his testimony before the Federal Electric Railways Commission, where he appeared as a witness for the American Electric Railways Association on July 17, 1919, he made the following statement:

"There is not very much trouble now in valuing a property. Valuation has been very much simplified, very much organized, and it is not a difficult matter to procure results and they are reasonably accurate; but the great difficulty—and I myself think it is the keynote of all our trouble today—is ignorance, sheer ignorance and lack of understanding by the public, very largely, but not confined to the public—a lack of understanding by the railroads themselves of the fundamental principles that are involved in all questions of valuing property, and especially all questions that are involved in fixing rates. If we could have a campaign of education which would make perfectly clear these things that are now misunderstood, I think the trouble would disappear almost wholly.

"I am convinced of that, and I have been trying to do my part in dispelling that ignorance, but it is very difficult. The attitude of the public mind is such that you cannot approach them; you cannot make them listen to you; they won't believe you, and I do not know that they are to be altogether blamed for it, because they have been sorely tempted in the past. I think the public utility companies all admit today that their own conduct in the past has, to some extent, merited the difficulties that they now find themselves in. I make no defense, and the utilities themselves make no defense, of the mistakes that they have made in the past, but the utility companies, as a rule, now see what mistakes they have made, and are trying their best to remedy them. But the public is not yet willing to meet them anywhere near half way; and so I say it is a case of ignorance—a greater amount of ignorance on the part of the public than it is on the side of the utility."

Further on in this same testimony Dean Cooley dwells at considerable length upon the expenses preliminary to the commencement of construction and the losses and expenses subsequent to the completion of original construction, about which he conceives the public to be ignorant. He refers to the profits of the general contractor and of the sub-contractors; to liability and fire insurance expenses, and to interest and taxes during construction. He points out that "there are profits going to somebody all the way through the building of this property," but says that the public does not understand this and that it does not "want anybody to get a profit." Continuing the discussion of so-called overhead expenses, he says:

"The question of the promotion of an enterprise and of promoter's profits is another red rag to the bull, and it is in connection with these promotion costs and promoter's profits that the public thinks that a good deal of the water has gotten into the capital account"

He says that when all of the items of overhead expenses in connection with the construction of a railway are added in, they actually come up, in certain instances, to as much as 50 or 60 per cent on the base cost.

Cooley Admits Actual Investment is Proper Basis for Valuation

Dean Cooley's attitude with respect to the fundamental basis of valuation is emphasized by his testimony given on April 30, 1919, before the New Jersey Utilities Board, where he was referring to his own appraisal of the Public Service Railway property. In discussing the relation between reproduction cost and actual or historical cost, he said that in his opinion the actual cost, if it could be ascertained, would far exceed the reproduction cost as he found it.

"Because of the fact that it is impossible in most cases to determine the actual money invested in the property," said he, "we have to approximate to it and the best approximation that any of us know about is the cost of reproduction, and the cost of reproduction is assumed among engineers to be the nearest approximation to the actual money in the property.

* * * * *

"By investment in this case, as I have it in mind, I mean the expenditures of money from the time the original properties were conceived, all of the moneys, down to the present time, including not only the money put into construction, that is, into the construction of the physical property, but including the moneys that were required to develop the property and make it a going concern and including the moneys that were lost by obsolescence and super-sedence of old elements by new elements due to the development of the art; including all of the elements, all of the moneys that have been expended for one purpose or another from the time the properties were conceived down to the present time. When you have aggregated all those I am very certain, as certain as I can be, that the aggregate of those costs would far exceed the reproduction cost today."

A perusal of Dean Cooley's testimony before the New Jersey Utilities Board and the Federal Electric Railways Commission leaves the impression that, as a result of his wide experience and his many contacts, he has developed a state of mind where he always feels that valuations are too low, that something has been missed, that a company's property represents a greater actual investment than any figure that can be arrived at by the reproduction-cost method in normal times.

The Cooley Appraisal Purely Ex Parte

At any rate, and irrespective of the qualifications or characteristic tendencies of the engineer engaged to do the work, the Public Service Corporation, without the official knowledge of the Utilities Board or of the Municipalities, and without seeking their cooperation or approval in any way, proceeded, in 1915, to procure for its own purposes an elaborate valuation of the Public Service Railway property, a project upon which it is said to have expended in the neighborhood of \$150,000. The summary of this valuation, contained in Dean Cooley's report to Thomas N. McCarter, president of the Public Service Corporation, comprises 149 typewritten pages. The summary itself is not dated, but internal evidence shows that it must have been filed some time subsequent to July 12, 1916. The appraisal to which it relates was made as of December 31, 1915, and is alleged to have been based upon average unit prices extending over the five-year period from 1911 to 1915, inclusive. The details of this appraisal are con-

tained in upwards of 80 volumes, more than filling three sections of a bookcase kept in the Public Service Railway offices in the Newark Terminal Building.

A year and a half after the completion of this appraisal, the event that had been foreseen and prepared for took place. The highest court in New Jersey held that the Utilities Board was not bound to respect the rates which had been established in municipal franchise contracts. The hour had come!

Emergency Relief Without Valuation in 1918

But when the Public Service Railway Company in March, 1918, startled the State of New Jersey by a demand for a 7-cent cash fare with a charge of 2 cents for each initial transfer and 1 cent for a transfer on a transfer, the company took the position that immediate financial relief was imperative and that it could not wait for the slow processes of valuation and a regular rate proceeding. At that time, in his testimony before the Utilities Board, Mr. McCarter said:

"The difficulty experienced by public utilities in readily readjusting their affairs lies in the fact that the ordinary procedure for securing permission for changes in rate schedules is necessarily subject to delays and frequently involves expensive valuations, and unless some way can be found to readily restore the normal proportion between cost of producing service and the price for which it is sold, the ability of the utilities for meeting these war-time demands for service will be seriously impaired.

* * * * *

"Some way should be found of readjusting the rates of the utilities on a basis designed solely to meet the increased cost of doing business. If these readjustments are directed solely to meeting increased cost of producing service, they can be speedily and properly made effective without recourse to the more exhaustive inquiries."

Up to that time the Public Service Railway Company had paid dividends ranging from $\frac{2}{3}$ of 1 per cent in 1908 to a maximum of 3 per cent in 1916. The company's demand in the emergency case was that it be restored to the financial condition of its banner year, 1916, without the expense and delay of a valuation and a regular rate proceeding. The Utilities Board, however, had unofficial knowledge of the existence of the Cooley valuation, and it was upon the request of the Board, not upon the initiative of the company, that the summary of the appraisal was offered by Mr. McCarter, but without the usual proofs. The municipalities not only criticized the Cooley appraisal on its merits, but objected to its consideration by the Board in the absence of any testimony by the appraiser himself. In the sequel, the Board accepted the theory of emergency jurisdiction, disregarded the appraisal, and gave the company such temporary relief as in the Board's judgment was necessary to enable the company to function.

Cooley's Appraisal the Only One Made

At the same time the Board directed the company to make a study of the zone system and to submit later on a scheme of zone fares calculated to give a better distribution of transportation charges, in proportion to the costs of service, among the different classes of riders. The company's zone report was filed in March, 1919, and at the same time a new schedule of rates, based upon the zone

plan, was filed to become effective April 1, unless suspended for a period of three months by the Utilities Board acting under the provisions of the utilities law. The new rates were in fact suspended and hearings were commenced, with the company and the Board in evident agreement that the proceeding was to be treated no longer as an emergency, but was to take the regular course for the establishment of permanent rates on the basis of a valuation of the property. Dean Cooley and his chief assistant, Professor Henry C. Anderson, were brought on from Ann Arbor and put on the witness stand to prove the valuation. It was assumed that the new rates could be put into effect by the company on July 1, 1919, unless the Utilities Board reached a decision in the case before that time. Under the circumstances, the municipalities found themselves taken by surprise and unprepared with a valuation of the railway property to set up against the *ex parte* valuation which had been made by Dean Cooley. The time available before the first of July made it absolutely impossible to think of duplicating the work which Cooley and his staff had taken about a year to do under the most favorable conditions. The Utilities Board itself took no steps to make an independent valuation. As the matter turned out, the time for the presentation of evidence by the Municipalities was extended through the courtesy of the Public Service Railway Company, but the assurance that the zone rates would not be put into effect on July 1 was not given until shortly before that date. From these circumstances the result was, and still is, that no inventory and appraisal of the Public Service Railway property, other than the Cooley appraisal, has been made by anybody, and all the calculations of reproduction cost by the experts for the Utilities Board, by the experts for the Associated Municipalities, and by the later experts for the Public Service Railway Company itself hark back to Cooley's work. This is a fundamental fact that must be constantly kept in mind in a discussion of the Public Service Railway Rate Case and the issues that it involves.

The only other fundamental valuation studies made in connection with the case were the study of actual cost taken from the books of the company, and the analysis of the capitalization of the company and its constituent, underlying and predecessor companies, both of which were made by Accountant Mark Wolff on behalf of the municipalities. Therefore, the fundamental elements of proof offered in evidence as to the value of the Public Service Railway property were three:

- (1) Cooley's reproduction cost appraisal as of December 31, 1915;
- (2) Wolff's actual cost study up to March 31, 1919; and
- (3) Wolff's analysis of capitalization up to December 31, 1918.

Each of these was a datum from which different witnesses started in the development of their final estimates and conclusions.

In general it may be said that a reproduction-cost appraisal is always highly theoretical and speculative and that the reproduction-cost method for that reason is especially conducive to wide differences of opinion and to extremely divergent results. If a company's books of account had always been properly kept from the beginning, an actual cost study and an analysis of capitalization would be much less subject to hypothesis, speculation and estimate than a reproduction-cost study necessarily is. In the case of the Public Service Railway system,

however, the companies in the system had not kept their books in a uniform manner and many of the construction cost records were missing. For this reason the actual construction cost data taken from the books had to be supplemented, in certain cases, by recourse to taxation reports and miscellaneous sources of information. Mr. Wolff's analysis of capitalization, for similar reasons, was necessarily incomplete in certain details.

Basic Figures Resulting from Three Valuation Studies

The general results of the three fundamental studies may be briefly stated as follows:

Reproduction cost new of the existing physical property as found by Cooley as of December 31, 1915, plus the additions to capital from that date to January 31, 1920, \$88,165,858.

Actual cost new (partly estimated) of both superseded and existing physical property as found by Wolff from the beginning of street railway construction in New Jersey up to March 31, 1919, less such "withdrawals" as had been written out of capital account by the companies themselves, \$93,662,873.

Total net capitalization of the Public Service Railway Company and its constituent, underlying and predecessor companies as found by Wolff on December 31, 1918, \$160,514,150.

In dealing with these fundamental figures, the methods used and the claims made on behalf of the Municipalities differed radically from the methods used and the claims made on behalf of the Public Service Railway Company.

The Original Cooley Appraisal Completed to Date

Cooley's reproduction-cost appraisal was the storm center of the case. The original figure for the property contained in the inventory of December 31, 1915, was \$79,318,040. This included the land upon which the Public Service Newark Terminal is built, but not the Terminal Building itself. The additions to the capital account of the Public Service Railway Company from the date of the appraisal up to January 31, 1920, including the cost of the Terminal Building, amounted to \$8,847,818. Cooley and Anderson themselves, and the other witnesses for the company, took the 1915 reproduction-cost figure as a base, but used the actual cost in dealing with the additions to property subsequent to that date, and thus adopted a combination of reproduction cost and actual cost in arriving at their final figures. On the basis of the original pre-war reproduction-cost appraisal, plus actual additions to capital subsequent to December 31, 1915, the Cooley and Anderson figure for the physical property comes up to the \$88,165,858 to which I have referred. To this they added 30 per cent to represent intangibles under the name of development cost. In this way is reached the first and most conservative final result presented by any of the witnesses for the company based upon the reproduction-cost method. This figure is \$114,615,615. If Cooley's inventory and the fundamental assumptions and methods used by him in his original appraisal are accepted as fully correct, then this figure represents reproduction cost new of the Public Service Railway plant and business on the

basis of average prices from 1911 to 1915 inclusive, with actual cost new for additions to physical property since 1915.

Cooley's Figures Revised to Take Account of War Prices

In view of the economic changes due to the great increase in prices that took place subsequent to 1915, Cooley and Anderson saw fit to present certain other and higher figures. In the first place, they adjusted the original appraisal by the modification of the unit prices to an average for a new five-year period extending from 1914 to 1918 inclusive. With this adjustment a figure of \$100,272,168 is reached for the physical property, to which a 30 per cent or \$30,081,650 is added for intangibles or development cost. The resulting final figure, \$130,353,818, represents the reproduction cost new of the plant and business of the company on the basis of assumed average prices covering both the pre-war and the war periods.

Cooley and Anderson also made an adjustment of the original appraisal on the basis of average unit prices for the five-year period extending from 1915 to 1919 inclusive, the result being a figure of \$107,796,149 for the physical property and \$32,338,844 for intangibles, making a total of \$140,134,993, representing the reproduction cost new of the plant and business on the basis of prices averaged over a period including pre-war, war and post-war years.

Still another adjustment of their original appraisal was made by Cooley and Anderson on the basis of prices as they prevailed in the year 1918, applied to the property contained in the inventory of December 31, 1915, plus the actual additions to capital subsequent to that date. On this basis the result is a figure of \$126,738,347 representing the reproduction cost new of the physical property at strictly war prices, and a figure of \$38,021,504 for development costs, making a total of \$164,759,851.

In addition to this, the land experts who valued the real estate in the original Cooley appraisal testified to a subsequent increase of \$1,401,212 in its value up to the end of 1919, and it was claimed by the company that this alleged increase in the value of the land should be added to the figures presented above.

New Experts Called to Prove Cooley Conservative

In rebuttal to the testimony offered on behalf of the Municipalities the Public Service Railway Company produced certain additional valuation experts, namely, William H. Blood, Jr., of Boston, connected with the Stone & Webster Corporation; Harold Almert, of Chicago, formerly connected with H. M. Bylesby & Company; Horace L. Howell, representing the late George Weston, who at the time of his death was connected with the Philadelphia Rapid Transit Company; Howard H. Crowell, of the Electric Bond and Share Company, of New York; and Martin Schreiber, chief engineer of the Public Service Railway Company and member of the Valuation Committee of the American Electric Railways Association.

Mr. Blood took the Cooley and Anderson figure for reproduction cost new of the physical property at 1918 prices and added 10 per cent to it to get the

cost at 1919 prices. Thus he arrived at \$139,326,709 for the reproduction cost new of the physical property, with \$41,798,012 for intangibles or development cost, getting a final figure of \$181,124,721 representing his idea of what it would have cost to reproduce the plant and business under 1919 price conditions. In his testimony, he adopted the round figure of \$180,000,000.

Mr. Almert, for the physical property, took Cooley's reproduction-cost figure based on 1918 prices, namely, \$125,883,621, and a "parallel" figure of his own amounting to \$132,073,000; added 30 per cent to each of them for development cost, and then compromised on a final figure of \$165,000,000, as his estimate of the reproduction cost of the Public Service Railway plant and business on the basis of war prices. He states, however, that this includes only a portion of the development costs. If he had put them all in, he would have gotten a final figure of from \$215,000,000 to \$230,000,000. He thought that such a figure would be higher than the company would consider fair and that it might embarrass the commission to use it.

The results reached by the late Mr. Weston were presented by Mr. Horace L. Howell, one of his assistants, who testified that Mr. Weston, taking the original Cooley appraisal of 1915 as a basis, redistributed it to correspond with the classification in a recent Chicago appraisal with which he was most familiar; added certain percentages to the different classes of property to represent the increase in cost up to 1919, and arrived at \$139,734,713 as the reproduction cost new of the physical property included in the original Cooley appraisal of 1915, to which, if he had lived, he would have added his estimate of going value. Presumably, also, he would have added the money invested subsequent to 1915 in additions and betterments amounting to \$8,847,818, and the increase of \$1,401,212 in the value of the real estate to which the company's land appraisers testified. This would have given him approximately \$150,000,000 for the physical property, and if he had used 30 per cent for development cost or going value, following Dean Cooley's lead, his total value would have reached approximately \$195,000,000 on the basis of reproduction cost new of the plan and business under 1919 conditions.

Mr. Howard H. Crowell, taking the reproduction cost of the physical property on the basis of average unit prices for the five-year period from 1915 to 1919 as estimated by Cooley and Anderson, namely, \$106,941,423, said that he would add to this sum \$9,500,000 for consolidation value and \$23,841,764 for development cost. This would give him a little more than \$140,000,000, which he said would be less than the true reproduction cost value, as there were certain additional elements, with respect to which he had no data, that should be taken into consideration. The item of development cost used by Mr. Crowell was the item of alleged losses to the Public Service Railway Company and its constituent companies subsequent to May 31, 1903, when the Public Service Corporation first came into control of the system. It will be seen that Mr. Crowell did not include development cost as such for the period prior to 1903, but put in \$9,500,000 for the value of the consolidations that were brought about during that period.

Public Service Railway Claims "Created Value"

Mr. Martin Schreiber did not attempt to set up a final valuation figure, either independently or on the basis of Cooley's original appraisal. His testimony was directed toward the proof of valuation methods as set forth in the report of the Committee on Valuation of the American Electric Railway Association of which Philip J. Kealy, President of the Kansas City Railways Company, was chairman. Mr. Schreiber read copious extracts from this report into the record and stated that they represented his own opinions. Among other things, he put forward as his own the claims made by the Committee that the "cost of consolidation" and "created value" were elements in going concern value. For example, in the Committee's definition of created value, which he accepted as his own, the following appears:

"Having pioneered the growth of the city or commonwealth and enhanced the value of both private and public property, the utility itself should be justly credited with part at least of the value so created."

It is obvious that the Public Service Railway experts entered upon a generous rivalry to see which of them could produce the highest valuation on the reproduction-cost basis. With their estimates ranging over so wide a field, it is not easy to characterize and summarize in a brief way the company's case. I have just referred to a final element introduced by Mr. Schreiber under the name of "created value." No definite figure representing this item was produced in the case, but it illustrates perhaps as well as anything could the attitude assumed by the company toward the valuation of its property. "The sky is the limit" seems a conservative characterization of the company's claims. The theory of "created value" is that the street railways have been pioneers in the building up of the urban communities of the state, and that their construction has resulted in a vast increase in the value of real estate in the communities which they serve. The Public Service Railway Company says: "See, we made the State of New Jersey. We created these land values. They ought to belong to us,—*at least in part.*" And so the company's chief engineer was put forward as an expert witness to describe the work of the Valuation Committee of the American Electric Railway Association, and to spread upon the record the wonderful qualifications of each member of that committee, and seriously to press upon the Utilities Board the validity of the valuation methods and claims for which the Association as a whole stands, including as a climax of fatuous arrogance this item of "created value." While certain parties might still question the allegation that the Public Service Corporation and the Public Service Railway Company own the State of New Jersey, they can no longer question, in the light of this testimony, that these companies claim to own it.

Although the definite figures set up by the different witnesses for the company, as a result of their computations of value, differed among themselves by a great many millions of dollars, there were certain continuous threads of approximate consistency running through the company's case as presented, and by picking up these threads we may perhaps get a general picture of what valuation looks like from the Public Service Railway Company's point of view. Here again we

have to go back to Dean Cooley, who may be described as the bell wether among the company's valuation experts, although it must be said that in this case a number of the younger wethers either in a spirit of frolicsomeness or in a desire to demonstrate their right to the succession when the time comes for the bell to be hung on another neck, went quite beyond their leader.

Company Claims That Fair Present Value is Identical with Reproduction Cost New

The first fundamental claim put forward by the company's witnesses is that fair value or present value is synonymous with reproduction cost new at present prices. This is the first great fundamental issue in the determination of the method to be followed in making a valuation of public utility property for rate purposes. The question is: Shall the value be determined by the amount of money actually invested by the company and its predecessors in proper capital expenditures in connection with the enterprise? Or, shall it be determined by the estimated cost of reproducing or replacing the existing property? On this point Dean Cooley wavered a little, as will be seen from his testimony in the Public Service Railway Rate Case, on April 16, 1919, as follows:

"Now, if we could get that actual historical cost we would do it, we would be glad to do it. Because we cannot do it we get the reproduction cost which we assume is the nearest thing to the historical cost that is possible and it stands for the historical cost in the absence of some other figures."

A little further on Mr. Herrmann, counsel for the Utilities Board, asked this question:

"You think the criterion of value, then, is the present value or cost to reproduce regardless of what was actually put into the property?"

To this Dean Cooley made the following reply:

"No, I tried to make an explanation a moment ago that the money that has actually gone into the property, that has honestly gone into the property, is the proper basis. Now, we do not know what that money is, we cannot find out, and we tried to do our best to find out, and we substitute for it the cost of reproduction, which we can find out. We base that cost of reproduction not upon any particular date which may involve low prices or which may involve high prices, but we try to take it over a period which will properly represent the time and conditions, fair conditions. We tried to be fair, in other words, in determining what is the cost of reproduction of this property and in this particular instance we took five years."

I have already quoted Dean Cooley's testimony in the New Jersey case to the effect that in his opinion the actual cost, if all the elements could be found, would be greater than the reproduction cost. On July 17, 1919, he was testifying on this same subject before the Federal Electric Railways Commission. He was explaining his view of the necessity for a contingency item in a reproduction cost appraisal. He had remarked that he "could talk for hours on the things that happen that make a contingency item necessary." His attention was then called to the fact that the Interstate Commerce Commission in its railroad valuation work, after the question of contingencies had been argued for a long time, decided against making any allowance for the item. He admitted that he had not

been aware of this ruling, but when his attention was called to it, he apparently jumped to the conclusion that the I. C. C. valuations are based upon actual cost, for he made the following comment:

"You would not have to fix any contingency item at all if you could get the historical cost of the property, if you knew what the property first cost, starting from the very beginning. You can take that cost out of the books, and that, of course, is the thing to take, because it represents the money invested; but, unfortunately, you cannot do that with the old properties, at least. You may do it with the newer properties. So, we proceed in the best way we know how, to approximate that cost, and it is my belief that this so-called cost of reproduction method is the fairest approximation to what would have been the book costs if you could have had them, if you could get them.

* * * * *

"* * * * * In making the statement that I just now made, I was assuming normal times, normal conditions, conditions that existed well before the war, and did not have in mind the extreme costs of labor and materials that we now have to bear."

Historical-Cost Method Rejected on "Mexican Dollar" Theory

Thus it will be seen that Dean Cooley wavers back again on this question of the use of the reproduction-cost method. He used it in his original Public Service Railway appraisal as a substitute for historical cost on the ground that it was impossible to ascertain from the books just what the investors had put into the property. At the same time, to prove the conservatism of his method, he announces with great positiveness his conviction that if all of the actual costs entering into the development of the property could be ascertained they would be immeasurably greater than the reproduction cost. Then in his statement before the Federal Electric Railways Commission he qualifies this opinion by saying that it refers only to normal times, not to the present period of extreme prices. What then does he suggest as the proper valuation method to be followed at the present time?

In his testimony before the Utilities Board, and again in his testimony before the Federal Commission, he calls attention to the extraordinary price conditions that now prevail as a result of the war, and takes the position that under these exceptional conditions historical cost would not be a proper criterion of present value. In this connection he introduces his spectacular "Mexican dollar" theory, and states that in view of the decline in the purchasing power of money either the pre-war valuation of a public utility property should be doubled, or else the pre-war rate of return should be doubled, in order that the investors may continue to receive a return having the same effective purchasing power that they received before the war.

Thus Dean Cooley raises a most extraordinary issue in connection with the valuation, under present conditions, of a street railway property for rate purposes. In one breath he maintains that the reproduction cost method and the historical cost method should produce about the same results, but in the next breath he asserts that in normal times the actual historical cost, if you could get all of it, would be immeasurably greater than the reproduction cost new of the existing property. In the third breath he maintains that in this abnormal period the historical cost method should be chucked overboard in order to give the

investors the benefit of the war prices as reflected in reproduction cost at the present time.

Shall Utilities Board Underwrite Purchasing Power of the Dollar?

All parties admit, as they must, that the necessary increase in the cost of operating a street railway, resulting from higher wages and from higher costs of materials, consumed in maintenance and operation, must be recognized and provided for as a part of the cost of service. Current expenses, beyond a doubt, actually and properly reflect fluctuations in wages and material prices, whether such fluctuations be due to the law of supply and demand, to changes in the purchasing power of money, or to other causes beyond the control of either the operating company or the regulatory authorities. This leaves the question open as to the treatment of invested capital. The Public Service Railway Company introduced the evidence of a Chicago engineer, Cecil Frederick Elmes, to show that the general purchasing power of the dollar, as shown by the index of wholesale commodity prices issued by the Department of Labor, decreased from 100 cents in 1913 to 42 cents in December, 1919. By the same token, the index for March, 1920, shows that the value of the dollar had dropped below 40 cents. It is clear that on this basis the security holders of the Public Service Railway Company who received \$100 in interest and dividends prior to the war, while now receiving the same number of dollars, will be getting only about 40 per cent as much purchasing power as they did six years ago. The question is this: Shall the investors in a street railway property receive a guaranty at the hands of the public through the process of regulation so as to protect them from losses which they incur through a decrease in the purchasing power of money? The Public Service Railway and its witnesses in a vibrant chorus answer, "Yes."

Fixed Investments Shrink or Swell With Changes in Value of Money

It is not doubted by anyone familiar with economic laws that persons having capital invested in bonds or guaranteed stocks bearing a fixed rate of interest over a long period of years or in perpetuity automatically lose a part of their capital through a decrease in the value of money. Nominally, they have as much property as before, but actually the dollars by which the property is measured are not worth so much. It cannot be denied, either, that the immense shrinkage in the intrinsic value of all fixed investments, arising out of such a tremendous economic upheaval as the world has been going through during the past few years, results in great and undeserved losses to individuals. Yet, credit has its basis in contract, and rather than destroy credit by starting a general disturbance of contractual relations, it would appear that any solution of the problem of stability in values must lie with the general government through some process of stabilizing the dollar, as suggested by Professor Irving Fisher. It is wholly impracticable for special authorities like the Utilities Board or other public or private institutions dealing with property rights established under special contractual relations to try, in a hit or miss fashion, to guarantee the purchasing power of money. When the value of the dollar depreciates the bondholder and

the guaranteed stockholder suffer a shrinkage in their investments. They do not have to wait for somebody to act. The shrinkage takes place and they are the losers. If, on the other hand, the dollar appreciates in value, a bondholder or a guaranteed stockholder takes a profit because the dollars to which he is entitled under his contract are worth more than they were when the contract was made. This applies to the principal of the investment, in case it is liquidated at a time when there has been a change in the value of money, and also to the interest and dividends received as the annual return upon the investment. Everywhere the holders of bonds, mortgages, preferred stocks and securities guaranteed by lease, lose or gain as the value of the dollar goes down or up. On the other hand, the owners of the equity in a property are affected in exactly the reverse way. Suppose, for example, a street railway with an actual investment of \$100,-000,000, of which \$75,000,000 was furnished by the bondholders and \$25,000,000 by the stockholders. See how values are switched from one class of security-holders to the other by fluctuations in the purchasing power of the dollar:

	<i>Total</i>	<i>Bondholders' Interest</i>	<i>Stockholders' Interest</i>
Original cost	\$100,000,000	\$75,000,000	\$25,000,000
Value when purchasing power of money is cut in two	200,000,000	75,000,000	125,000,000
Value when purchasing power of money is doubled	50,000,000	75,000,000	Wiped out

It cannot be doubted that a violent change in the purchasing power of money such as has taken place during the past five years has the result, in unregulated industries, of switching enormous values from one set of security-holders to another. The adjustment proposed by Dean Cooley and the other witnesses for the Public Service Railway Company would produce this same effect in a regulated industry. No one denies that this result is deplorable and that the welfare and orderly development of society demand a greater stabilization of values, if that is possible of attainment. But the Cooley plan would not stabilize values at all so far as individual security holders are concerned. It would be different if the Public Service Railway property were owned by a single corporation, with the lessor companies entirely eliminated, and with no bonds or preferred stock outstanding against the property. Then we should have a situation where, upon the assumption that the dollar's purchasing power has shrunk one-half, either a doubling of the pre-war valuation or a doubling of the pre-war rate of return would tend to reestablish the effective value of the property in the hands of its real owners, the common stockholders. But even under such ownership the rate of return would need to be readjusted continually to keep pace with the fluctuations in the dollar's purchasing power, if stability in values was to be maintained.

Results of "Mexican Dollar" Theory Applied to Public Service Railway Valuation

As a matter of fact, on December 31, 1915, the date as to which Dean Cooley found the reproduction cost new of the physical property of the Public Service Railway to be \$79,318,040, there were bonds and guaranteed rental stocks outstanding against this property amounting to nearly \$103,000,000. In this case,

the common stock, held by the Public Service Corporation of New Jersey, represented a negative or minus equity of more than \$23,000,000, if the rental stocks and the bonds be taken at their par value. The only basis upon which the Public Service Corporation could claim any value whatever for the stock of the Public Service Railway Company which it owned at the time of the original Cooley appraisal would be the existence of intangible values over and above \$23,000,000, or capitalized earning power in excess of bond interest and fixed rentals. I do not say that the Public Service Corporation put no money into the Public Service Railway Company. What I say is that whatever cash it may have invested in the purchase of Public Service Railway common stock or in contributions to the Public Service Railway Company's capital account went to make good the property of the underlying security holders, either to the extent that the underlying securities were originally excessive, or to the extent that the property represented by them had been subsequently depleted.

I have referred to the figure \$79,318,040, as the reproduction cost new of the *physical property* as found by Dean Cooley as of December 31, 1915. An analysis of the Cooley appraisal reveals the fact, however, that cash working capital of \$926,403, and "promoter's remuneration," "cost of money" and "organization and development of the project," which are commonly treated as intangibles, to the amount of \$8,633,132, were included in this figure. It also reveals that in arriving at the value of land used for rights of way Dean Cooley's appraisers had in most cases found the market value of adjoining lands, and then multiplied it by two and a half to get the assumed value of the right of way lands for railway purposes, thus adding nearly \$2,000,000 in excess of the market value as found by themselves. The analysis also shows that Dean Cooley and his staff, following the methods which they themselves laid down, found, upon examination of the property, an accrued depreciation amounting to \$8,543,426. This was pure, observed, physical depreciation, and included nothing on account of obsolescence. It did not even include depreciation of the labor elements entering into track and roadway construction, although Dean Cooley himself admitted on cross-examination that labor ought to be depreciated along with the materials going to make up the physical property. Beyond the shadow of a doubt, the amount of accrued depreciation revealed by Cooley's appraisal was much too low, and yet not a dollar was deducted from reproduction cost new on that account.

It is perfectly clear that the value of the physical property, by a proper application of the reproduction-cost theory, with depreciation deducted, even on the basis of Cooley's inventory and unit prices, was under \$60,000,000, although the bonds and guaranteed rental stocks outstanding against it were, as we have seen, nearly \$103,000,000. Surely, under these conditions, the position of the Public Service Corporation as the holder of the common stock of the Public Service Railway Company was hopeless under pre-war conditions.

Losses Incurred by Underlying Security Holders

Now let us see what the application of Dean Cooley's theory would result in. In his testimony before the Utilities Board on May 9, 1919, Mr. McCarter him-

self introduced two exhibits showing the outstanding bonds and guaranteed rental securities with an estimate of their market value on December 31, 1915, and again on May 1, 1919. The par value of these securities as shown was \$103,445,650. Their market value, on December 31, 1915, was given as \$93,004,555, and their market value on May 1, 1919, as \$75,116,665, showing a shrinkage during the war period of \$17,887,890. It appears, therefore, that the holders of these contract securities lost, in terms of market value, nearly \$18,000,000 during the three years and four months following the date of the original Cooley appraisal. But this does not in any degree measure the actual loss of these security-holders resulting from the depreciation of money during the war period. If they had sold their securities on May 1, 1919, they would have received nearly \$18,000,000 less in money than they would have received for them on December 31, 1915; but still more important is the fact that each dollar received in 1919 would have been a depreciated dollar, with only half the purchasing power of the dollar of 1915. This means that the market value of these underlying Public Service Railway securities on May 1, 1919, represented a purchasing power of less than \$40,000,000 measured in the money of 1915, as compared with the \$93,000,000 representing their market value at the earlier period.

Truly these are great losses, and by them the holders of inflated stocks and bonds have expiated a multitude of sins. Yet the Public Service Railway Company has at all times refused to admit that the rentals paid for the underlying properties were, in the pre-war days, unjust or unreasonable. From its point of view, therefore, if Dean Cooley's theory is correct, the bondholders and the guaranteed stockholders ought to receive, under post-war conditions, the same purchasing power in the return upon their investment that they received before the war. It is said that the valuation of the entire property comprised in the Public Service Railway system should be doubled for rate purposes, or else that the rate of return should be doubled. At one point in his cross-examination, Dean Cooley assented to the proposition that the leases by which these underlying stocks and bonds are secured should be modified and the rentals increased for the purpose of protecting the holders of these securities from the losses incurred by them through the depreciation of the currency. But Mr. McCarter and the Public Service Railway Company proved cold to this suggestion, and it was not pressed.

Minus \$23,000,000 in 1915 Becomes Plus \$57,000,000 in 1920

Let us assume that the value of all the property owned and used by the Public Service Railway Company in 1915 was in round figures \$80,000,000, according to Dean Cooley's estimate of reproduction cost, and let us further assume that on account of the depreciation in the currency this same property is now worth, in the "Mexican dollars" of today, double this sum, and that \$160,000,000 is now to be established as the basis for rate making, as against the \$80,000,000 which, under this assumption, would have been correct six years ago. Who gets the benefit of the stabilization of values for which Dean Cooley and the other Public Service Railway witnesses contend? Obviously, the entire benefit falls into the lap of the Public Service Corporation as the holder of the common stock

of the Railway Company. As we have seen, this stock, according to Cooley's valuation, represented a negative or minus equity of about \$23,000,000 in the money of 1915, but by the automatic legerdemain of a depreciation in the currency it is now proposed that this negative equity shall be transformed into a positive equity of \$57,000,000 in the money of 1920. Thus the Public Service Railway Company as a whole would be protected against the losses resulting from a decrease in the purchasing power of money, but the bondholders and guaranteed rental stockholders would have no share in this protection. Under this plan the benefits conferred upon the investors by an attempt of the Utilities Board to stabilize the intrinsic value of the Railway property, and thus overcome the shrinkage in the purchasing power of money, would be "hogged" by the Public Service Corporation, and the real owners of the property, namely the bondholders and the stockholders of the lessor companies, would be left to "stew in their own juice." The contracts which they made under entirely different economic conditions would be held inviolable, while the 5-cent fare contracts with the municipalities, made under conditions just as dissimilar from present conditions, have already been abrogated for the benefit of the Corporation. When the investments were originally made under public authorization and for public use, there was an implied contract to the effect that the return to capital should be based upon the amount of the investment as measured in dollars. This contract also, under Dean Cooley's theory, would be abrogated in favor of the Corporation by the substitution of reproduction cost new at war prices for actual or historical cost.

Mr. McCarter's Share in Proposed War Profit \$1,333,000

In the zone fare case in April, 1919, Mr. Thos. N. McCarter testified that he personally owned approximately 5,000 shares of the stock of the Public Service Corporation. These shares have a par value of \$100 each, so that Mr. McCarter's holdings in the Corporation amount to a total of approximately \$500,000. Moreover, he stated that for every share which he held he had paid \$100 or more, but he did not say whether the payments were in cash, in property or in services. As the securities of the Corporation are not issued under the supervision of the Utilities Board, and as the Corporation's books are not open to public inspection, the record in the rate proceedings does not show to what extent the Corporation's stock represents a cash investment. But it is clear that any switching of value from the underlying securities of the Public Service Railway Company and its subsidiaries to the common stock held by the Public Service Corporation would directly benefit Mr. McCarter to the extent of his interest in the common stock of the Corporation. On December 31, 1919, the amount of this stock outstanding was \$29,999,600. If Mr. McCarter's half million dollars was common stock, it represented, therefore, a one-sixtieth interest in the Corporation. Under Dean Cooley's theory of valuation on the basis of war prices, to be used for the purpose of stabilizing the investors' holdings, something like \$80,000,000 of value, as measured in the currency of today, would be switched from the underlying security holders to the Public Service Corporation, and Mr. McCarter's personal share in this "war profit" would be

approximately one and one-third million dollars. Obviously, the public and the regulatory authorities must take with a grain of salt the valuation theories advanced by Mr. McCarter and the witnesses employed by him.

Cooley's Theory of Valuation Disproved by Market

Under the public utility law of New Jersey, and under the Constitution of the United States, the owners of the Public Service Railway property have certain rights that are guaranteed against invasion by the public. It has already been determined that the Utilities Board is not bound by the municipal contracts limiting rates of fare, and the Public Service Railway Company, therefore, claims its legal right to insist that the contracts be disregarded and that rates be established which will enable the company to earn a fair return upon the present value of its property. Against the violation of this right by adverse action of the Board, the company can appeal to the courts of New Jersey and ultimately to the Supreme Court of the United States for protection. One would suppose that under these circumstances, if Dean Cooley's theories of valuation are correct, the securities of the Public Service Corporation would even now reflect the increased value of its holdings in the common stock of the Public Service Railway Company. Yet, as a matter of fact, not only have the bonds and guaranteed stocks of the underlying companies depreciated in value since 1915, but also the common stock of the Public Service Corporation has suffered a big slump. It was quoted at 116 on December 31, 1915, the date of the original Cooley appraisal; by May 1, 1919, it was down to 83, by December 15, 1919, down to 65, and now (July, 1920) it is down to 55. Obviously, a fall from 116 in 100-cent dollars to 55 in 50-cent dollars in four and a half years does not indicate the increase in the intrinsic value of the stock that ought to be reflected in its market value if Dean Cooley's valuation theories were sound and if the courts of the country were dependable as protectors of vested interests.

The fact is that, under the abnormal conditions of the present time, the use of the reproduction-cost method on the basis of present prices as a means of fixing value for rate purposes is absurd in theory and grotesque in results. Dean Cooley's statement before the Utilities Board and also before the Federal Electric Railways Commission that reproduction cost in normal times is taken as the best possible substitute for historical cost, where the latter cannot be accurately ascertained by recourse to the books of account, has merit. But his rejection of historical cost at the present time, and his contention that reproduction cost at war prices should be used as the basis for fixing value for rate purposes, lead to results that are astonishingly unjust and, therefore, unsound. Yet the Public Service Railway Company was able to produce in February, 1920, the other expert witnesses referred to, who not only valiantly supported Dean Cooley but even went considerably beyond him in their valuation fallacies.

Old Property Worth as Much as New, According to Company's Experts

I have referred to the fact that Dean Cooley and his staff found upwards of \$8,000,000 of accrued depreciation in their survey of the Public Service Rail-

way property in 1915. When Cooley came to testify in the rate proceeding he was hard put to it to explain why he had found any depreciation at all. He stoutly maintained that so far as the public was concerned there was no depreciation; that the property was in a 100 per cent condition. Apparently his finding of depreciation, or "deterioration," as he preferred to call it, was one proof of the claim that neither he nor the company had any particular purpose in mind when the valuation was made. Certainly, if he had supposed that it was to be used for rate purposes, he would have protected himself from the "misrepresentation" that appears to be natural where an appraiser sets down certain figures which purport to represent a substantial difference between reproduction cost new and reproduction cost new less depreciation, and then proceeds to deny the existence of any such difference so far as the value of the property for public use is concerned!

All the experts produced by the Public Service Railway Company were emphatic in their declaration that a well-maintained street railway property should be regarded as in a 100 per cent condition in a determination of value for rate purposes. The Valuation Committee of the American Electric Railway Association, whose report was introduced in evidence by Mr. Schreiber, states that it "wishes to emphasize its conclusions with respect to the subject of accrued depreciation in the strongest manner possible, as follows: Where a property has been maintained in good operating condition and an appraisal is being made to determine investment value for rate-making or for sale to municipality, state or government, no deduction should be made for accrued depreciation." It thus appears that in spite of the emphatic rulings of the United States Supreme Court in the Knoxville Water Case, the Minnesota Rate Cases, and other leading cases, with respect to accrued depreciation, the Public Service Railway Company and its experts are still of the opinion that an old, partly worn-out and partly obsolete street railway property is worth as much as a brand new one. And this doctrine extends not merely to valuation for rate purposes, but to valuation for sale to a municipality or state. It is hardly necessary to argue the point except to call attention to the fact that the public utility companies throughout the country for several years have been making a tremendous drive upon commissions and courts in valuation proceedings to get recognition for this fine fallacy that accrued depreciation is a myth. It is one of the big, vital issues that Dean Cooley and the other Public Service Railway experts pushed into the very forefront of their testimony in the rate proceedings.

Superseded Property Excluded From Inventory Reappears in the Intangibles

The physical property covered by a reproduction-cost appraisal obviously must be limited to the property in existence at the time the appraisal is made. Horses and mules that have been dead for the past thirty years, cars that have been dismantled and burned, buildings that have been torn down, machinery that has been sold for scrap, and all the other elements of physical property once used and useful in the street railway business, but long since worn out, abandoned or superseded because of their unfitness for continued service, form no part of the inventory in a reproduction-cost appraisal. Yet the valuation

experts for the companies hate to leave them out entirely. For appraisal purposes, they conceive the fine idea that these ancient items of property, though no longer discernible to any of the five senses of men, are still with us, having attained a sort of spiritual immortality in the realm of the intangible, far beyond the wear and tear and decay that are characteristic of earthly use. And so, the reproduction-cost theorists include in their appraisals not merely the visible, tangible, physical plant of the utility, but also its "business." They assume that to reproduce the business, it would be necessary to invest in the mules, the horse cars, the primitive motors, and all the other items of superseded property which long years ago ceased to be useful in the operation of street railways.

Development Costs, Known and Unknown

Dean Cooley, possibly with an eye to the precedent established by the Utilities Board in the Passaic Gas Case, reached the conclusion that 30 per cent was a very fine, attractive, and, for that matter, conservative, percentage to add to the reproduction cost new of the physical property of the Public Service Railway—in which he included working capital, promoter's remuneration, cost of money, and what not—in order to arrive at the full present cost of reproducing the plant *and business* of the company. He felt pretty sure that it ought to be more than 30 per cent, but was willing to let it go at that in order to prove how moderate he was. The Public Service Railway Company handed him certain figures purporting to show that, from 1903 on, deficiencies had been incurred aggregating \$16,247,369. These were arrived at by assuming that all the company's operating expenses and fixed charges, including the rentals on the inflated securities of the consolidation era, were necessary and proper, and that the Public Service Corporation was entitled to receive 8 per cent per annum on the money it invested in the Public Service Railway. Whenever the revenues for any year were insufficient to satisfy these requirements, the deficiency was to be capitalized and to form the basis for a return during succeeding years. In this way, any deficiencies or alleged deficiencies below an 8 per cent return were counted as cash investments, and were cumulated at 8 per cent compound interest to furnish a measure of development cost.

By this process the company claimed that it had proven the figure \$16,247,369, and so Cooley put this amount down in his valuation table as the "known development costs 1903-1918." Dean Cooley testified that he did not know what the development costs before 1903 were, but that in his judgment they must have been even greater than subsequent to 1903. However, he took the 30 per cent to cover development costs both before and after the Public Service Corporation assumed control. Having accepted without question the company's definite figure for development costs subsequent to 1903, he was compelled to lump off the balance of his 30 per cent as "additional development costs," or, as he should have put it, "unknown development costs."

Dean Cooley's method of treatment produced most astonishing results. The exhibit introduced by him setting up in three columns the reproduction cost new of the property, first, on the basis of unit prices for 1911 to 1915; second, on the basis of unit prices for 1914 to 1918; and third, on the basis of unit

prices for 1918 alone, shows the "known development costs 1903-1918" to be precisely the same under each assumption, namely, \$16,247,369. Inasmuch as this figure purported to be an actual figure built up from the financial records, it had to remain the same no matter on what basis the appraisal was figured. However, the application of the flat 30 per cent. to the estimated reproduction cost of the physical property to cover the entire development costs, "known" and unknown, had the effect of producing a remarkable variation in the amount of the development costs attributed to the period before 1903, while that subsequent to 1903 remained unchanged. Thus it appeared that when the reproduction cost was based upon 1911 to 1915 prices, the development costs prior to 1903 amounted to only \$9,945,970; but when reproduction cost was based upon 1918 prices, the development costs prior to 1903 amounted to \$21,517,717, although in both cases the development costs subsequent to 1903, being "known," were precisely \$16,247,369, no more and no less.

"Heads We Win, Tails You Lose," the Company's Program

Nothing could show more clearly the absurdity of the method followed by Dean Cooley and the other witnesses for the company in attempting to "lug" into a reproduction-cost appraisal the hypothetical historical cost of developing the company's *business*. The whole theory of valuation for which they contended is, in effect, that a public utility *can never lose*. They assume that if the utility is to be regulated it will be guaranteed by its constitutional rights against present or future losses. They also assume that if a utility is now being regulated or is to be regulated in the future, the generous hand of the community must necessarily make good to the present investors all of the actual or hypothetical losses which they or their predecessors may have incurred back to the Year One. They assume that any failure of the early investors to earn as high a return upon their money as they hoped or expected to earn when they put their money into the enterprise was an actual cash loss, which, cumulated at compound interest from that time to this, is to be made good before the community's power of rate regulation can be made effective for the future. Even though the utility may have operated for fifty years under limited rates of fare fixed by voluntary contracts with the municipalities; even though during that period the holders of these franchise contracts may have considered them almost priceless; nevertheless, to whatever extent the investors at any time during these past years may have been disappointed, these disappointments should now be retrieved by the present investors through a public guaranty. The fact that in the old days investors and manipulators went into the street railway business as a speculation; the fact that on realized or expected profits of the five-cent fare they inflated the capitalization until, as Mr. Ralph S. Bauer would say, the street railways should have been turned into steamboat companies to navigate in their own water—these facts make no difference to Dean Cooley and his fellow experts for the Public Service Railway Company. They would now ask the public to confer upon the present stockholder—the Public Service Corporation—the benefits necessary to make good an 8 per cent return upon the entire investment of all the underlying and predecessor companies from the

beginning of the street railway business until now. The Cooley theory in its practical application means that a public service corporation, thanks to the beneficent exercise of the police power under modern regulation, plays with the public the game of "heads I win, tails you lose." It is a prominent part of the theory of these experts that from the very beginning the street railways have all of the time been losing heavily, but that as a condition of future public control these losses, cumulated by compound interest at a speculative rate, must be capitalized and added to the reproduction cost new of the physical property as the so-called cost of reproducing *the business*, and thus become a part of the rate base from now until the end of time. If this theory could be made good, then, beyond a doubt, it would be greatly to the advantage of every street railway company to keep on losing money year by year, and the more the merrier, for where else could be found so profitable an investment as an investment in street railway losses bound to accumulate at 8 per cent compound interest forever!

The Unearned Increment Plus 150 Per Cent on Rights of Way

Dean Cooley and the other witnesses for the Public Service Railway Company also stoutly maintain that a utility company is entitled to capitalize against the public the natural increase in the value of the lands used for rights of way and other street railway purposes. No matter whether these lands may have been received as a gift or may have been acquired for a song, the growth of the community, which the company and its predecessors were bound to serve, has often resulted in an immense increment of land value. The private land owner who improves land or holds it for a rise is compelled to pay the interest on the original investment, whatever it may be; the taxes and assessments, and all other expenses of waiting for the increment to materialize. In the case of the street railways, however, all of these expenses are met as a part of the cost of operation, which is paid out of the revenues received from the riding public. Thus, gains and losses, merited or unmerited, are all equally effective in producing value against the public.

But the Public Service Railway Company now claims not merely the present market value of the land, including all the increment, but in the case of rights of way Dean Cooley's appraisers would give to the company, to be capitalized against the public, 150 per cent more than the market value to cover the assumed costs of acquisition if it were necessary for the railway company now to acquire new rights of way under present conditions. The "multiple" method of arriving at the value of rights of way for railway purposes was flatly repudiated by the United States Supreme Court in the Minnesota Rate Cases, where the opinion was written by Justice Charles E. Hughes, but this counts for nothing in the opinion of Dean Cooley and his associates. Neither does it count for anything that the Supreme Court in these and other cases explicitly held that accrued depreciation should be deducted in arriving at present value for rate purposes. These rulings are regarded by the Public Service Railway Company's experts as errors of the court. Dean Cooley was even willing to admit that the engineering profession was in part to blame for the mistakes the court had made,

because, forsooth, the engineers in their testimony in rate cases had not with sufficient unanimity and zeal piled up the companies' claims high enough, or defended them with sufficient vigor. As Dean Cooley would say, the engineers had failed to place all of "the facts" before the court. He even told the Utilities Board that he had had in mind to call on ex-Justice Hughes and point out to him the mistakes he had made in the Minnesota Rate Cases, but, unfortunately, it was now too late for it to do any good. And Mr. Almert, in his testimony for the company, referred to the deduction of accrued depreciation from reproduction cost new as "the one big fundamental error on the part of the courts."

Watered Securities to the Tune of \$73,000,000, Claimed as Franchise Value

Not satisfied with reproduction cost at war prices; not satisfied with claiming that its old property is worth as much as if it were new; not satisfied with the recognition of cumulated hypothetical deficiencies as additions to present value; not satisfied with the unearned increment of land values, plus 150 per cent on rights of way, the Public Service Railway Company, at the close of the last hearing, came forward with the explicit claim that franchise values, equal to all the watered securities piled up during the period of manipulation and consolidation, should be recognized as value upon which future car riders must pay an 8 per cent return. The final decisions of the New Jersey courts in the Passaic Gas Case are now to be repudiated. The company, regarding the United States Supreme Court as the final protector of vested interests, still clings to the forlorn hope that this ultimate tribunal will sanctify the results of the stock and bond deals in the consolidations of 25 years ago. It does not matter that these old consolidations still smell to heaven whenever an accountant succeeds in prying open the closet doors that ordinarily conceal the Public Service Railway Company's past. Naïvely, the company claims that the value of the franchises—the five-cent franchises—under which so many millions of dollars of "losses" were piled up, was accurately measured by the estimates of value placed upon them by the hopeful manipulators who, according to Accountant Wolff, injected some \$73,000,000 of water in the securities of the Public Service Railway system back in the nineties.

Cooley's methods were controverted on practically every fundamental issue by Dr. Milo R. Maltbie, former public service commissioner in New York, and by Professor Edward W. Bemis, a distinguished valuation expert on the public side, both of whom testified for the Municipalities. With respect to the reproduction-cost method, depreciation, land values, working capital, overhead and development cost, they proved that his theories were unsound and inconsistent with the best precedents of valuation in rate proceedings.

Cooley's Appraisal Sampled

Thus far I have been indicating the lengths to which Dean Cooley and the Public Service Railway experts generally had the hardihood to go in their general theories and methods in the ascription of value to the company's prop-

erty on the basis of reproduction cost. As I have said, neither the Utilities Board nor the Municipalities undertook to make a new inventory or to establish new unit prices as the basis for a reproduction-cost appraisal of this property. Yet the experts for the Municipalities were able, within the limited time at their disposal, to check some of Cooley's detailed work. For example, Mr. Charles K. Mohler, the engineer, found that 46 passenger cars retired from service as worn out or obsolete before May 31, 1919, had been entered in the Cooley appraisal on December 31, 1915, as being on the average in a 61.1 per cent condition, which indicated that they were good for 15 years more instead of 3 years. Under Cooley's theory that in a valuation for rate purposes there is no accrued depreciation, these cars went in at 100 per cent of their reproduction cost. Mr. Mohler found that 100 General Electric No. 57 motors were retired in 1918, and \$44,250 was withdrawn from the fixed capital account as the company's estimate of actual cost. Cooley's appraisal figure without overheads for 100 similar motors was \$76,357, and with overheads \$103,225. Thus with Cooley's appraisal of the company's property substituted for book cost, the capital account would show \$14,725 more after the motors had been scrapped than the actual cost account showed when they were new. Mohler also found that Cooley had allowed \$10 apiece "base cost" for removing 25 hypothetical willow trees, 12 feet high, assumed to have been found on the right of way of the Hackensack line. With the overheads added, the cost of removal was \$14.67 apiece, which at the wages paid before the war would be "going some" for a 12-foot willow. Mr. Mohler showed that the land and improvements at Wood Lynne Park were appraised by Cooley at \$57,608 including the overheads, but with accrued depreciation deducted; while this same property, sold two years later, brought a net price of \$14,264. This property at the undepreciated value claimed for rate purposes stood at \$52,644 without the overheads, and at \$75,036 with them. A piece of property in Camden consisting of land and two residence blocks stood in Cooley's appraisal for \$21,256, including the overheads, or, with depreciation deducted, at \$18,617. This property brought \$7,000 when it was sold two years after the appraisal.

In making his reproduction-cost estimate Cooley assumed that the entire property being appraised was non-existent except for inventory purposes, that not a wheel would be turned until at the end of a three-year construction period, preceded by another year for the acquisition of land; yet in fixing his unit prices for track work he allowed 10 cents per lineal foot for the removal of pre-existing track, made another allowance for the cost of maintaining street railway traffic while the theoretical reproduction of the property was going on, and even assumed that the company would be carrying the laborers to and from their work on the cars. One of the most extraordinary discrepancies brought to light was with respect to the cost of grading job on the Turnpike line, which was being done right at the time when Dean Cooley was making his inventory. The reproduction-cost estimate that went into the appraisal on account of this work was \$65,968 without overheads, and \$96,753 with them. The actual cost as shown by the company's construction records, was \$30,178 without the overheads which, for the entire job including the grading, were only \$3,283.

Divergent Results: \$59,000,000 by Subtraction; \$180,000,000 by Addition

The reproduction-cost method, if carefully and sensibly applied, may undoubtedly be used to throw light upon the question of fair present value for rate purposes, but the tremendous economic changes that have taken place as a result of the war make it especially difficult at the present time to use this method in such a way as to be helpful to a public authority bound to seek a just result. Yet Cooley's original appraisal made in 1915, before these economic changes took place, involved so many valuation vagaries that its usefulness as a measure of fair value for rate purposes needs to be heavily discounted. Still, without admitting the correctness of the Cooley inventory in all its details, or the correctness of the unit prices which Dean Cooley set up as fair average prices for the five-year period ending with 1915, I thought it possible, on the basis of this inventory and of these unit prices, by the elimination of unused property, by the deduction of accrued depreciation, by the readjustment of the overhead allowances, and by certain other major corrections of method, to save the result based on the reproduction-cost theory from being so fantastic as to condemn itself. As a witness for the Municipalities I prepared an analysis of the Cooley appraisal along the lines indicated, having in mind the sound principles of valuation to which Dr. Maltbie and Professor Bemis had already testified. After making an allowance of 10 per cent for going value, instead of the outrageous 30 per cent allowed by Dean Cooley and other company witnesses on the unproven hypothesis that this percentage would fairly and conservatively represent actual development costs, I reached as my final figure approximately \$59,000,000. This figure contrasts with the \$180,000,000 arrived at by Mr. William H. Blood, Jr., of Stone & Webster, and with the intervening figures arrived at by Almert, Cooley, and other Public Service Railway witnesses.

Such an enormous variation in an estimate of value based on reproduction cost, and starting from the same inventory and the same unit prices, is calculated to evoke comment, to say the least. The differences are in part explained by what I have already said about the principles laid down and the claims made by the Public Service Railway Company witnesses. I have only touched the high spots in the analysis. It would be fruitless here to go into the fine details to show further where Cooley's original valuation and the subsequent inferences from it overshot the mark. It is worth while, however, to correct a common misapprehension with respect to the appraisal process. Even under the best of conditions a reproduction-cost appraisal presents a complex and difficult problem, but the problem of determining fair present value for rate purposes under the rules laid down by the United States Supreme Court is infinitely more complex and difficult. People often assume that all you have to do to get the value of a street railway is to hire an engineer to go out and look it over and then make a few computations and tell you what it is worth. They assume that value for rate purposes is a fact to be found by a technical expert, instead of a judgment to be rendered by a governmental authority clothed with responsibility for the application of sound public policies to rate-making. As a matter of fact, as

proven by the record in this very case, a street railway company can find celebrated engineers and experts to support any value that it may desire to establish.

Why Engineering Valuations Differ

It is often said that reputable engineers making a valuation of the same property, even though they represent different interests, will come within a very small percentage of an identical result. This is true when all of the conditions under which the appraisals are to be made are prescribed in great detail by agreement or by a supervisory authority, but when such an appraisal is completed, it does not necessarily represent the value of the property, but merely a result ascertained by the application of certain rules to certain detailed facts about which there can be no dispute. Obviously, two competent engineers, though acting independently, ought to be able to agree in the count of the cars in service, in the measurement of the tracks in use, in the computation of the amounts of paving of different kinds that are found in connection with the road-bed, in the description of the size and type of car-barns and other buildings and with respect to all those facts which are primarily matters of inventory—of count, measurement and description. Furthermore, it is to be expected that competent engineers, if they are working upon identical assumptions as to the date of the appraisal and the conditions of the work, will not differ much with respect to unit prices.

The application of the unit prices to the inventory produces a result that engineers call "base cost." Even with respect to base cost there are likely to be great differences in the results obtained, unless the assumptions and methods upon which the appraisal is based are identical, and there is no likelihood that they will be identical, unless steps are taken to make them so. Under these circumstances, a purely *ex parte* appraisal made by or for the company that owns the property, hardly rises to the dignity of evidence in a rate proceeding; for everything about it depends upon the assumptions made and the methods used, and, as we have seen, the assumptions and methods of one appraiser are likely to differ radically from those of another. But if, through cooperation, through strict supervision or through accident, different appraisers do reach results that come within a very small percentage of being identical so far as base cost is concerned, then the real troubles begin. When appraisers representing one interest get through with the processes of addition and multiplication, while those representing another interest get through with the processes of subtraction and division, the final results are likely to be as far apart as the east is from the west. This point is well illustrated by the results in the Public Service Railway Case as I have already outlined them. Here the Cooley appraisal was purely *ex parte*. There was absolutely no agreement or attempt at agreement between the company and the commission, or between the company and the municipalities, with respect to the conditions under which the appraisal was to be made or the rules to be applied. The appraisal was presented before the Utilities Board as a completed thing. Without an entirely new appraisal, no substantial changes in either the inventory or the unit prices could be made, but even on this basis

the divergent results to which I have referred were reached through the processes of analysis and readjustment.

An Illustration from Pittsburgh

Another illustration will show even more clearly the difficulties and uncertainties of public utility appraisal work. The Public Service Commission of Pennsylvania, in order to minimize the differences between the street railway companies and the municipalities, has adopted a policy of cooperation through the establishment in each case of a joint board of engineers composed of appraisers representing the municipality and appraisers representing the company, with the chief engineer of the commission as chairman. The most notable application of this policy was in connection with the appraisal of the Pittsburgh Railways. Here, an Engineers Valuation Board was organized March 15, 1918. It rendered its report to the Public Service Commission in August, 1919. It presented appraisals on seven different bases. The results, without any deduction for depreciation, ranged from \$49,324,000 as the estimated cost of reproduction new of the existing property at prices ruling when each part of the property was constructed and under the original conditions of construction, up to \$102,842,000 as the estimated cost of reproduction new at prices and under the conditions prevailing on April 1, 1918. The Board of Engineers also indicated the amount of superseded property included in its historical-cost estimate and the amount of accrued depreciation in each of its reproduction-cost estimates. The deduction of depreciation from the normal reproduction cost left \$37,285,000 as a definite minimum, as compared with the \$102,842,000 maximum without depreciation deducted, both of these figures being arrived at by the reproduction-cost method. With respect to these figures the Board of Engineers was unanimous, but this was not the whole story. The Board reported that it was unable to agree as to "development value, going-concern value and other elements of value."

Thus, the Pennsylvania Commission, after making every effort to promote cooperation and agreement between the City of Pittsburgh and the Pittsburgh Railways Company, found itself with sets of agreed-upon figures ranging all the way from thirty-seven millions to one hundred and two millions, with no agreement whatever upon intangibles. The commission ultimately adopted an arbitrary final figure of \$62,500,000, but this was fixed frankly as a basis for reorganization, on the theory that any smaller figure would result in the disintegration of the property, which, in the eyes of the commission, would be a public calamity.

Historical-Cost Method Also Subject to Jugglery

It might be supposed that coming down out of the clouds of theory to the hard basis of accounting facts we could depend upon the actual or historical-cost method to give us something precise and definite in the valuation field. Unfortunately, however, uniform and scientific systems of accounts do not reach back very far in the history of the electric railway business, and in the case of a great, composite system like the Public Service Railway, with a street car history of sixty years behind it, and a turnpike history almost as long still further back, we cannot hope to get an indisputable figure representing original cost to date or

any other precise investment concept. Historical cost can be juggled with almost as freely as reproduction cost, if the experts have the will to juggle. As we have seen, Accountant Mark Wolff arrived at \$93,662,873, as the total actual cost of the Public Service Railway property, based for the most part upon the construction accounts. On cross-examination, in view of minor gaps in certain of the records, and in order to be liberal to the company, Mr. Wolff said that he would be willing to round off the actual cost figure to an even \$95,000,000. As counsel for the company, Senator Wakelee brought out the fact that certain intangible items which the company claimed as elements of value were not included in Wolff's actual cost figures, but for the most part these were hypothetical and elusive items for which the company could supply no specific figures from its records. On the other hand, it was pointed out on behalf of the municipalities that Mr. Wolff's figures represented cost new of all the physical property that had ever been acquired by the Public Service Railway Company or its predecessors, less only such items as may have been written off from the capital account by the companies themselves during the past sixty years. For example, the figures included many millions for superseded horse-car and cable property and many additional millions for power stations subsequently alienated to the Public Service Electric Company. The figures showed no deduction whatever from the cost new of the existing property.

Barker and Almert, Experts in Addition

Nevertheless, Mr. W. S. Barker, comptroller of the Public Service Railway Company, started out with Wolff's round figure of \$95,000,000, and built up an alleged historical cost to approximately \$147,000,000. To accomplish this he first added an item of \$420,515 paid to one B. M. Shanley back in electrification days, and charged to the "franchise and property account" of the Consolidated Traction Company. Mr. Wolff had rejected this item. Then, Mr. Barker added 12½ per cent for promoter's remuneration, cost of money, and organization and development of the project, alleged elements of preliminary or overhead expense not included in the construction costs as shown on the books. These estimated items amounted to nearly \$12,000,000. He then added two and a half million dollars for working capital, and \$6,000,000 for the unearned increment of land value which, he assumed, had been taken into consideration and capitalized at the time when the consolidations of the underlying companies were effected. This gave him \$115,848,079. To this he added \$7,795,750 of development costs for the period prior to 1903, and \$23,841,764 for development costs subsequent to that date. These estimates of development costs had been worked out from the income accounts of the principal companies, and represented his estimate of the aggregate deficiencies below an 8 per cent return upon construction cost. This gave him a final figure of \$147,485,593 as the approximate historical cost of the property.

Mr. Harold Almert also took a fling on behalf of the company in the realm of historical cost. He started with the \$109,848,079 representing Mr. Barker's historical cost before the addition of development costs, but instead of being satisfied with the \$31,637,514 of development costs worked out on the 8 per

cent theory, he concluded that it would be proper to add enough for development costs to bring his historical cost up to the \$165,000,000 which he had already fixed as the reproduction cost new of the property at war prices. This gave him a little over \$55,000,000 for development costs, although he stated that if he were of a mind to add *all* of the development costs, as would be entirely proper, he would have to put them in at between 90 and 100 million dollars.

Actual Cost, Less Depreciation, of Existing Property

Starting from Mr. Wolff's actual construction cost figure of \$93,662,873 and going in the opposite direction from that followed by Mr. Barker and Mr. Almert I deducted the book cost of power plant and equipment alienated in 1910 to the Public Service Electric Company, the estimated cost of superseded property dating back to the days of horse cars and cables, the cost of "rehabilitation" charged to construction in the early years of Public Service Corporation control (a cost which appears to have been incurred in changing the gauges of various street railway lines for the purpose of unified operation), the miscellaneous properties used for ferry and other non-railway purposes, and accrued depreciation of existing property figured on the same basis that I used in estimating reproduction cost. In this way I reached \$56,077,366, as the final figure for estimated actual cost, less depreciation, of the existing physical property of the Public Service Railway Company as of March 31, 1919.

For the purpose of determining whether or not any allowance should be made for development cost in this actual cost study, I assumed that the physical property superseded at or before electrification could or should have been written out of the capital account before the several dates, beginning May 31, 1903, when the control of the various portions of what is now the Public Service Railway system came into the hands of the Public Service Corporation. On the other hand I assumed that no depreciation had been written off with respect to the property existing on those dates. Starting on this basis I found that the earnings of the Public Service Railway system were sufficient to pay 6 per cent on the actual construction cost of the existing property, pay the \$4,160,000 of rehabilitation as an operating expense, and pay the \$14,510,000 of accrued depreciation which I attributed to the existing property as of March 31, 1920, and still leave a handsome surplus for contingencies. I could not see that it would be just to make any allowance for development cost to be capitalized at this time against the public. It seemed to me, particularly in view of the scandalous way in which the five-cent fare franchises were capitalized in the stock and bond deals during the period of electrification, that it would be preposterous to assume the existence of development costs back of 1903, under the previous regimes, as an element of "fair value" at the present day. However, Mr. Barker, a witness for the company, came along, and from an examination of the incomplete records of the predecessor companies, and, upon the assumption that these companies were entitled at all times to an 8 per cent return with deficiencies cumulated at 8 per cent compound interest, figured out so-called development costs of \$7,795,750 for the period prior to 1903, without providing for the superseded

property; and by the use of the 8 per cent return and certain other adjustments he produced a cumulative deficiency of \$23,841,764 for the period subsequent to 1903. The widely divergent results reached clearly illustrate the possibility of creating the appearance of a loss merely by starting with an overloaded capital account and by figuring the fair return at a higher rate than the actual cost of money.

It will be remembered that 1916 was the banner year in the history of the Public Service Railway Company. It was to the conditions of 1916 that the company asked to be restored in the Emergency case, but Mr. Barker's computation of development cost shows a deficit of \$1,566,000 for that banner year. It is out of the deficits so computed that the company builds up development costs by compound interest and pyramids so-called values as an impassable barrier to rate regulation in the future.

What 8 Per Cent. Compounded Will Do for Cheerful Losers

The theory that a street railway company cannot under any circumstances lose, and that any deficiencies, assumed or real, are to be immediately and permanently capitalized and preserved in the form of development cost or going value, is reduced to an absurdity when consideration is given to its ultimate effects. For example, a single dollar of loss incurred in the year 1916 and cumulated, according to the Public Service Railway Company's plan, at 8 per cent compound interest, would, in 100 years, add the sum of \$2,199.98 to the value of the plant for rate purposes, and if the railway incurred an additional loss of one dollar during each of the 100 years, the aggregate additions to capital at the end of that time on account of this annual one dollar loss would be \$27,484.79. If the company lost \$1,566,048 in 1916, its banner year, as Mr. Barker figured that it did, lo, what does the future hold for the people of New Jersey! This loss, even if not repeated, would, in the course of 100 years accumulate the tidy sum of \$3,400,000,000; and if the banner prosperity of 1916, when the company lost *only* \$1,566,000, were to be the lot of the Public Service Railway Company year after year for the full period of a century, the accumulated losses would by that time have added some \$43,000,000,000 of wealth to the company. As the banished Duke would say, "Sweet are the uses of adversity." Just think what would happen to Mr. McCarter's half million dollars of common stock in the Public Service Corporation of New Jersey if he could manage to stick it out for another 100 years. But as a century seems a long time to wait, we can still hold out a better hope. Even the accursed zone system, jitney competition, the strikes and the increased wages offer their balm to the stockholders of the Public Service Railway Company, for, according to Mr. Barker's figures, the company's deficiency for the first three months of 1919 was accumulating at the rate of nearly \$5,000,000 a year, without counting the unearned return upon the deficiencies for the intervening years. If things keep up at this rate Mr. McCarter will have to wait much less than a hundred years to realize his billion dollar interest in the intangible values of the Public Service Railway property. This analysis suggests an easy way to provide for paying the cost of future world wars.

What Adjusted Capitalization Shows

I should add just a word about the company's capitalization. Out of a par value of \$160,514,150, including real estate mortgages, advances from the Federal Government, and investment by the Public Service Electric Company upon which the Public Service Railway Company pays interest, Mr. Wolff found \$72,934,221 of "water," or, as he called it out of deference to the sensibilities of Mr. McCarter and the Utilities Board, "excess capitalization." This, according to Senator Wakelee, represents the franchise values of the property as of the dates when the water was injected into the capitalization. How much more the franchises may now be worth in view of the abrogation of the five-cent fare limitation, and the accumulation of invaluable deficits during the past 17 years, deponent, the Public Service Railway, sayeth not.

From the other side it should be pointed out that the \$87,000,000 of "honest" capitalization, conceded by Mr. Wolff in a spirit of liberality, is not necessarily represented to the full 100 per cent by the present value of existing property, for the company's depreciation reserve is a mere nominal sum and, therefore, a large percentage of the par value of these securities now represents superseded property, the power plant disposed of to the Electric Company and accrued depreciation of railway property still in use. With these three items deducted the investment, as figured on the basis of sound capitalization, would be brought down well below \$60,000,000. So again we get, from the point of view of capitalization, a range of nearly one to three in the final results.

The Function of the Utilities Board

With these preposterous differences between the witnesses representing the opposing interests, whether they approach the problem from the point of view of reproduction cost, from the point of view of actual cost, or from the point of view of capitalization, the decision of the Public Service Railway Case on the basis of the evidence presented would seem to be almost hopeless. With so much at stake, both for the Public Service Railway Company and for the people of New Jersey, it would seem that the Utilities Board might better have adopted a procedure designed to minimize the divergence in the testimony presented. The inventory should have been made under public supervision or by cooperation between the opposing parties in interest; the unit prices should have been figured out in the same way; the conditions and methods governing the reproduction-cost appraisal and the determination of depreciation should have been prescribed by the Utilities Board; the canons of an actual or historical-cost study should have been laid down. Under the difficult circumstances surrounding a valuation of such a property, the Utilities Board should have gone to great lengths to prevent the presentation of loose and disputed figures by either side.

But with all precautions taken there would still remain for the Utilities Board itself a high and difficult governmental function. The determination of the value of a public utility property for rate purposes is not an engineering discovery. Under the valuation rules that are coming to be widely accepted by

courts and commissions, the responsible authority is required to take into consideration every pertinent fact—the original cost of the property and the subsequent additions thereto, its present condition, the estimated cost of replacement, and everything else that may help in reaching a just decision. It is clear that for the proper exercise of so difficult and responsible a function unusual intelligence, wide experience, a broad-gauge attitude, a keen realization of the character of the public interest involved, and a virile will, are essential.

Under the terms of the public utility law, a utilities board, with the right qualifications, has sufficient authority to enable it to reach a sound conclusion in even so difficult a matter as this, but it cannot hope to do so unless it provides itself with adequate facilities, independent of the contending parties, for the proper testing of the evidence submitted by opposing witnesses, nor unless it brings its power and its intelligence to bear upon the problem of reducing the points of difference between them, so far as this can be done, by prescription of rules and methods of procedure to give some reasonable uniformity to the results of valuation studies which are based on the same general theory. In the confusion that now exists in the Public Service Railway Case, the Utilities Board is almost helpless.

Government by Contract—A New Way of Spending Public Money

At this point the legislature of 1920 steps in to relieve the Board of all responsibility for the valuation. Proceeding upon the naive, but exploded theory that a valuation is a mere engineering process, Chapter 351 of the Laws of 1920 instructs the Governor, the State Treasurer and the State Comptroller to act as a commission to procure an appraiser of street railway property. The first section of the bill constitutes the new commission "for the purpose of ascertaining and determining the value of all the property, including every proper and lawful element thereof, of any or all street railway and traction companies" in the State of New Jersey. This sounds like discretion, responsibility, and power! But the act goes on to say that the commission's functions are to be performed "in the following manner." The manner prescribed is by the *immediate* selection of "a competent electrical or mechanical engineering concern, either firm or corporate, of the highest established reputation, equipped and organized for and experienced in the work of valuing street railway property," and of entering into a contract with such concern "to make and complete" the proposed valuation. Then the act proceeds to confer powers upon and give directions to the unknown engineering concern that is to do the work. The sum of \$100,000 is appropriated for the purpose of carrying out the provisions of the act and the commission is empowered to agree with the engineering concern selected upon the compensation to be paid for its services and expenses. Section 9 of this act is so unique and extraordinary that I quote it in full, as follows:

"When the valuation of the property of any street railway or traction company is completed as herein directed, the engineering concern so selected to make such valuation shall file with the commission herein constituted a complete and detailed report of such valuation in form available for use for the purpose of fixing rates under existing laws, which report, together with all documents and maps, and other papers accompanying same shall be immediately transmitted to and filed with the Board of Public Utility Commissioners of this

State, and shall be a public record, open to the inspection of the public at all reasonable times, and shall be admitted as evidence in the courts of this State and shall be evidence of the facts therein contained to the same extent as though the same had been produced and proved and the value of the property as set forth in said report shall be accepted by the Board of Public Utility Commissioners of this State as the value of said property as of the date specified in said report in any rate proceeding under any law of this State to the extent that the value of said property is a factor in the fixing of a rate." ⁵

Thus the established procedure for the valuation of public utility property for rate purposes is swept aside and this all-important function of government is farmed out to "an engineering concern." When, before, was so complete an abdication of governmental power proposed? Why did the legislature not enact that the valuation of each street railway company's property should be made by the company itself? Since the valuation is not to be proven by oath; is not to be the subject of public hearings and cross-examination of witnesses; is not even to repose in the hands of the valuation commissioners long enough for them to read it, but is to be immediately transmitted, with all the accompanying maps and documents, to the Utilities Board and thereafter to be accepted by the Board as fixing the value of the property for rate purposes, and is to be accepted in all the courts of New Jersey as competent evidence, just as if it were really so, why was it necessary to provide for the expenditure of \$100,000 of the State's money for doing work which the several street railway companies would have been glad to do at their own expense, and which they would have done with as great a degree of safety to the public interests? For, as Dean Cooley said in his testimony before the Federal Electric Railways Commission, the public is ignorant. But even the companies themselves are also ignorant. It takes the acute minds of engineers, trained in the process of valuation, to discover elements of value which the companies themselves could not find if they were left unprompted.

The valuation issues at stake in the Public Service Railway Rate Case are of supreme importance. Is it not clear that the people of New Jersey are bungling the problem, with possible future consequences that are appalling to contemplate?

IV.

A DEFINITE AND CONSTRUCTIVE STATE POLICY NEEDED

Thus far in this review I have dealt with the effects of jitney competition, with the vital importance of effective public control as a condition precedent to street railway monopoly, with the failure of the Public Service Company in the past to earn by adequate service the right to public protection as the exclusive agency for local transportation, and with the extraordinary complexity and vital importance of the undetermined issues connected with the valuation of the railway property for rate purposes. The New Jersey situation has so many angles that the analysis and discussion of the issues involved could be prolonged indefinitely. The whole nation-wide problem of street railway development and control is here exemplified. Everywhere the same question is pressing for an answer: Shall the public arm be paralyzed in dealing with local transportation issues, be-

cause, forsooth, the companies demand unlimited help to enable them to support their tottering financial structures? Shall the urban communities of the state, and even the state itself, for lack of initiative and a fixed public policy, lapse into the pitiful condition where they recognize their absolute dependence upon the street railways for essential transportation service, but are unable to help themselves, and see no way but to "give in" and take whatever terms the companies may feel like prescribing? Must the state and the municipalities accept as inevitable a condition where every consideration of public policy and every urban interest affected by transportation service will be absolutely subordinated to the one compelling demand of the company for more revenues to produce profits that will be sufficient to attract new capital into the business?

No one denies that capital is necessary for street railways, and that in one way or another the full cost of capital, along with all the other necessary elements in the cost of necessary service, must be paid by those who receive or are benefited by the service. But the public is entitled to insist that the cost of service shall be kept down to the lowest practicable minimum and that the service shall be adequate without being wasteful. It is absolutely essential that the cost of capital, the fixed charge, shall be held down. This involves not only a conservative valuation of existing property and reasonable conservatism in the investment of new money, but also a conservative rate of return. The Public Service Railway Company claims eight per cent per annum reaching all the way back through the dim and distant years to the origin of street railway transportation in New Jersey. We have already seen in retrospect and in prospect the colossal results of capitalizing and compounding the eight per cent hopes of a few generations of sanguine investors.

We have to ask this question: What is it that makes the cost of capital high? The reply is clear: Too much of it in proportion to the earning power of the enterprise, too much risk, and a money market where demand outstrips supply.

Too Much Capital: Too Much Risk: Too High a Rate of Return

With the seven-cent fare, the Public Service Railway's revenues are about \$25,000,000 per annum. On the basis of a \$60,000,000 investment, this would give a yearly revenue of 42 cents for each dollar of capital, a figure that is less than the earnings of the Cleveland Railway in 1919 under a five-cent fare. On the other hand, if we take for the Public Service Railway the valuation figure offered by Mr. Blood, namely, \$180,000,000, the company's gross revenue is reduced to 14 cents per dollar of investment. To pay an eight per cent return upon a \$60,000,000 valuation would take less than 20 per cent of the gross earnings, but to pay 8 per cent upon a valuation of \$180,000,000 would take more than 57 per cent of the earnings. The very claim of a high valuation or of a high rate of return makes the investment speculative. The power to earn what the company demands as a right becomes more precarious. The greater risk calls for a still higher rate of return, and the still higher rate of return further increases the risk. Even the Cleveland Railway Company, with its service-at-cost franchise, has recently demanded an increase in the rate of return from 6 per cent to 7 per

cent. One of the leading witnesses for the American Electric Railway Association went before the Federal Electric Railways Commission and claimed ten per cent as a fair rate of return even with a service-at-cost guaranty. So also the New York Electric Railways Association tried to put through the 1920 session of the legislature a service-at-cost plan with a ten per cent return prescribed. Thus we see the street railways being drawn by the lure of the pleasant circular motion into the relentless power of the financial whirlpool.

Welfare of Capital Requires Safety and a Low Return

The high rates now being paid to induce new money to flow into public utilities, particularly street railways, are the result of insecurity and of scarcity of free capital. Many people seem to entertain the fallacy that the nominal "wages of capital" are increased on account of the general increase in prices. As a matter of fact, the depreciation in the currency has nothing to do directly with high interest charges, since interest and principal are both figured in the same kind of dollars. Six per cent applied to a million 50-cent dollars is obviously as adequate a rate of return as six per cent applied to a million 100-cent dollars. But when the supply of free capital is inadequate to meet the demand, or when the risk of the prospective investment is increased, the rate of interest goes up. During the war period many things have combined to accentuate the risk attaching to street railway investments, but the most potent of all these influences is the knowledge that the promoters who built up the pre-war financial structure overplayed the game and left the companies topheavy with capital obligations. There is no hope that rates of fare can be kept low enough to be attractive to potential car riders unless the basic financial policies of the street railway industry are reversed. To claim a doubled valuation by reason of war conditions increases the difficulty of earning a fair return. To claim a doubled rate of return on account of the scarcity of capital and the increasing dangers of the investment takes the companies a stage farther on the road to ruin. Safety lies in security and a moderate or even a low rate of return.

A Challenge to Efficient Operation Necessary

Another thing that the public has a right to look out for is the operating expenses. Protected monopoly has a tendency to deaden enterprise, particularly if the idea gets abroad that unrestricted regulation or a service-at-cost contract is nothing more than a cost-plus scheme. In the Public Service Railway Rate Case, the municipalities did not provide the funds for making a transportation survey for the purpose of laying bare wastes and extravagances in operation, and the Utilities Board seemed to assume that it was unnecessary to question or check up the company's expenses to any great extent. It is surmised that a detailed survey of the Public Service Railway from the point of view of operation would reveal the possibility of important economies, particularly in the speeding up of service, in the adoption of one-man safety cars on many lines, and in rerouting and in the improvement of schedules. At any rate, under a scheme of state regulation, with no contractual maximum rate of fare, public control will

surely prove a failure unless it provides an effective challenge to economy and efficiency in operation. Without such a challenge, private management loses its incentive under the condition of protected monopoly.

The Price of Public Cooperation

The street railways have come to a pass where public cooperation is more than ever necessary, not merely for their prosperity but even for their survival as public utilities. In his testimony before the Federal Electric Railways Commission in October, 1919, Mr. John A. Beeler, the transportation engineer, laid particular emphasis on this point.

"The electric railways," said he, "were for so many years unaccustomed to regulation that they came to respect much too slowly the value of cooperation with state and municipal regulatory bodies. Today, when the electric railway needs all the cooperation it can get, it finds that it has been a demoralizer of public confidence in these very commissions and local authorities whose help would now be so valuable."

If the companies would come down to earth, be moderate in their valuation claims, be satisfied with a conservative rate of return, bestir themselves to effect economies in operation, and subordinate profits to service as their controlling motive, the public could well afford to extend to them the helping hand of cooperation. When street railways feel themselves to be public servants and when they are so regarded by the communities which they serve, then surely there is every reason to give them protection against destructive competition, to relieve them from excessive and discriminating tax burdens and other public charges, to aid them in every way possible in giving convenient, rapid and uninterrupted service, and to assure them adequate compensation for the work they do. But public cooperation cannot properly be given to the companies in these or any other ways unless they frankly and absolutely accept the rôle, not merely the name of public servants.

A Fundamental Change in Public Relations Essential

The degree of public cooperation necessary to make street railways financially successful under existing conditions, without an unwarrantable curtailment of the public service they render, is almost if not quite beyond the horizon of hope under private ownership and operation. Without doubt, a fundamental change in their public relations is essential, and also, without doubt, the community at large cannot escape the burden of a greater responsibility for self-help than it has ever been willing, hitherto, to assume. The effective control of public utility services, and more especially the guaranty that adequate local transportation service shall be available to the community at a reasonable cost, stand in the very front rank of New Jersey's governmental problems. The state needs a policy, a policy that goes far beyond the temporizing expedients of mere regulation, a policy that looks into the future and paves the way for effective community action leading to the full acceptance of public responsibility for the performance of public functions and to the final subordination of profits to service as the controlling motive in the public utility field. Leading up to the formula-

tion of such a policy, a searching survey of existing conditions is an essential first step. Such a survey could best be made by a commission acting under legislative authority. But such a commission, if appointed, ought to be free from the curse of petty, partisan politics; else it would be a case of the blind leading the blind, and both falling into the ditch. Such a commission would need intelligence and courage, for the subject of its inquiry would be not only supremely important but also highly controversial. It may take years for the state to formulate and adopt an effective public utility policy. That is all the more reason for beginning to look into the matter now. Perhaps it is not absolutely essential that at the start the inquiry be under the auspices of the state. The municipalities might act together, or even a group of public-spirited citizens' organizations might initiate the movement. But in one form or another concerted action ought to be taken to lift the Public Service Railway problem out of chaos and get public attention focussed on it under circumstances calculated to lead to the adoption of a definite plan for its solution.

New Jersey Needs Light

The big things upon which definite light is needed at the present juncture are:

1. The extent to which the jitneys are rendering a necessary public service, the extent to which their operations need to be brought under a better system of regulation for the protection of the public, and the effect of their competition upon trolley traffic, trolley revenues and trolley fares.

2. The adequacy of the local transportation service now being rendered by the street cars, the sufficiency of the Public Service Railway Company's facilities to handle all of the traffic, the street railway extensions needed in the near future, and the extent to which motor buses may be used advantageously as part of a unified transportation system.

3. The fair value of the Public Service Railway Company's property devoted to public use and the relation which this value bears to the company's capitalization and fixed charges.

4. The rate of return which the Public Service Railway Company must be allowed to earn if it is to render the public service required of it; this being largely a question of the reasonableness of the company's present commitments and of the security that can properly be given to its investment and its earning power in the future.

5. The extent to which the cost of necessary street railway service can properly be reduced by improved methods of operation.

6. The necessity of public cooperation and the extent to which it is possible in the production of adequate transportation service upon terms conducive to the general welfare, including a consideration of policies relating to taxation, paving obligations, the readjustment of street layouts, help in keeping the tracks clear for the street cars, the status of the investment with respect to its fair earning power and security, and the ultimate right of the state or the municipalities to take over the transportation system when public policy makes it necessary.

APPENDIX B

A REPORT

ON

CERTAIN ASPECTS OF THE
TRACTION PROBLEM OF THE
CITY OF DENVER, COLORADO

BY

DELOS F. WILCOX, PH.D.

PREPARED FOR

THE DENVER COMMISSION OF RELIGIOUS FORCES

OCTOBER, 1920



APPENDIX B

A REPORT ON CERTAIN ASPECTS OF THE TRACTION PROBLEM
OF THE CITY OF DENVER, COLORADO

Elmhurst, N. Y.,
Oct. 29, 1920.

Dr. John A. Lapp, Director,
22 East Ontario Street,
Chicago, Illinois.

DEAR DOCTOR LAPP:

I refer to our conference in New York at the City Club on September 18, 1920, when you explained to me the street railway situation in Denver and stated that an investigation of the labor relations of the Denver Tramway Company was being undertaken on behalf of the Catholic, Protestant and Jewish churches. At that time you said that you and your associates desired me to take part in the investigation and to report to you on some of the collateral elements of the problem, particularly with respect to the Tramway Company's financial needs as a factor in the determination of its relations with its employes. At a subsequent conference at the City Club on October 10, 1920, I went over the matter again with yourself and Rev. Dr. John A. Ryan and Dr. Edward T. Devine, your associates in the conduct of the investigation, and after a discussion of the chief factors in the general electric railway problem and of the conditions peculiar to Denver, you requested me to cover four principal points in my report, as follows:

I. Fair play in the attitude of the public toward the public utilities, and the position which the moral forces of the community should take with respect to the utilities' financial needs.

II. The significance of valuation in the settlement of street railway problems, with a brief analysis of the methods followed and the results reached in the valuation of the Denver Tramway property by the Colorado Public Utilities Commission and by the experts retained by the Tramway Adjustment Committee of Fifty-Five.

III. A brief analysis and evaluation of the "Service-at-Cost" ordinance drafted by the Tramway Adjustment Committee and of the "Elastic 6c Fare" ordinance, both of which were submitted to popular vote at a special election October 22, 1919.

IV. A discussion of the methods pursued by the Denver Tramway Company with respect to maintenance, replacements and depreciation as revealed by the company's reports.

You advised me that the primary purpose of the investigation undertaken by you and your associates was to enable you to render an impartial report to the people of Denver with respect to the Tramway Company's labor policy. You explained that your interest in the financial problems of the company was incidental to the effect which the company's financial condition necessarily or actually has upon its labor relations. Therefore, for the purposes of this investigation, you did not deem it necessary that I should go to Denver and make a de-

tailed study of the street railway problem on the ground. In lieu of that, you asked me to examine a considerable mass of data submitted by you which included:

- (a) The two decisions of the Colorado Public Utilities Commission with respect to the Tramway valuation and fares;
- (b) The report and findings of the Tramway Adjustment Committee of Fifty-five;
- (c) The two ordinances rejected by the voters at the October, 1919, election;
- (d) A series of statements furnished by the Denver Tramway Company to the Tramway Adjustment Committee at various dates in the early months of 1919;
- (e) The last three annual reports of the Denver Tramway Company, and
- (i) The special edition of "Tram-O-Grams" published May 25, 1920.

While the time available for my part of the investigation has been limited, and while the documents submitted to me do not cover all of the details which I should need to look into if I were asked to render a complete and final report on the company's financial needs, nevertheless, on the basis of the information at hand and the time available for its examination, I am now prepared to discuss in general terms the several points upon which you requested my advice.

I

Fair play in the attitude of the public toward the public utilities, and the position which the moral forces of the community should take with respect to the utilities' financial needs.

In the grave crisis through which the street railways of the country are now passing, the problem of their public relations is absolutely fundamental. The street railway problem at the present time involves a conflict between public and private interests. The drift of population to the urban centres is still going steadily on, and no community function that arises out of the conditions of city life is more vital to the public welfare than the provision of local transportation facilities. The magnitude of the interests in street railways, and their importance in the social economy of cities may be seen from the fact that these local transportation lines carry more than 10 times as many passengers as are carried by the steam railroads of the country, and the investment in street railway facilities is about twice as great, in the aggregate, as the entire funded debt of all the municipalities in the country. The policy of American cities thus far, with few exceptions, has been to depend upon private agencies to supply, under various degrees of public control, the local transportation service that is essential to every community.

At the present time every big city in the United States is faced with the problem of determining what its duty toward the street railway is. The last thing that a community can afford to be is unfair. The greatest need of every modern urban community is the power of public initiative and civic cooperation and nothing can be so destructive to this power as a spirit of injustice dominating community policy. Yet under many circumstances it is very hard to know what justice is.

Beyond a doubt, the street railway companies as a class have, in the past,

committed grave wrongs against the public conscience and the public welfare. They have often been instrumental in the corruption of public servants; they have seldom accepted intelligently and in good faith the full obligations resting upon them as agencies for public service; they have too often looked upon their business as a private business with the desire for profit as its mainspring, and have made the manipulation of stocks and bonds rather than the operation of street railways their primary business. At the present time, when the street railway companies are in financial straits, and the transportation service of urban communities is being curtailed and is thought to be in danger of breaking down completely, it is time to look the facts squarely in the face for the purpose of determining what good morals and the public interest demand in the readjustment of the relations between the communities and the companies.

It is the theory of the Federal Constitution and of American law in general that contracts representing the voluntary engagements of the parties are sacred and must be enforced unless both parties consent to have them changed. In the past, when the cost of street railway service was low and the amount of street railway traffic rapidly increasing, the companies have stoutly resisted the exercise of the police power to reduce the fares below the rates stipulated in their franchise contracts. But now the tables are turned! The companies that once looked upon the fixed 5-cent fare as the talisman of speculation and profit—as the key that would unlock the vaults of private capital for the unlimited expansion of a prosperous and powerful industry—have fallen upon evil times. They miscalculated the cost of transportation service; they did not foresee the potential competition of the trackless and trolleyless motor vehicle; they neglected depreciation and lived in a fool's paradise and, in common with the rest of us, failed to take into account the possibility of such an economic revolution as was brought on by the World War; they pursued a reckless financial policy; and they cultivated the enmity of the people, who, they supposed, were dependent upon them for transportation service.

They have had a rude awakening and now they come, hat in hand, pleading that they be released from the obligations of the contracts which are no longer profitable to them. Under the new conditions that have arisen a franchise contract is regarded as a mere scrap of paper—the last thing in the world that should be enforced.

In the midst of this confusion it is important to lay bare the essential factors in the problem of urban transportation.

First. It has come to be recognized that public transportation facilities are absolutely essential to the welfare of every large urban community and that for the present, and perhaps for an indefinite time in the future, electric railways will be the principal agency through which this service is rendered. Just now a great deal is being thought and hoped and said about the possibilities of the motor bus as a means of public transportation, but the one thing that has become certain in this connection is that the unrestricted development of motor bus transportation in competition with the street railways will certainly result in the crippling, if not the complete destruction, of one or the other of these agencies, and that thus far the electric street railway, conservatively financed and effi-

ciently operated, has very great advantages over the motor bus as the sole or principal means of transportation in a large city.

Second. Local transportation service is recognized to be so essential to the general welfare of every urban community, and the conditions under which the service must be rendered are so intimately related to community affairs, that the community itself is bound to assume the final responsibility for the provision of such service. It is too late in the day for American cities to shirk this responsibility and allow the burden to fall upon private initiative and private enterprise unassisted and uncontrolled. No community can afford to permit the motive of private profit to be controlling in the determination of the extent and character of the transportation facilities furnished.

Third. It follows that the community, in its organized capacity, either must take the initiative and perform for itself the service which it recognizes to be indispensable, or else it must permit the service to be performed by private agencies on terms and conditions that will be persuasive to private enterprise to undertake or to continue the performance of the function. What the community does for itself need not be self-sustaining; what the community depends upon private enterprise to do must be remunerative, or else private enterprise will balk and refuse to do the work.

Fourth. Where a private company has entered into a franchise contract by which it undertakes to render transportation service indefinitely or for a given period of years at a fixed price, the community, undoubtedly, has the legal right to enforce the terms of the contract and to require that the stipulated service shall be rendered at the stipulated price. However, if the city is growing, as most American cities are, it is necessary that street railway facilities be continually extended and improved. This requires the investment of new capital, and as a practical matter a city has to consider the effect of the enforcement of the franchise rates prescribed by the franchise upon the ability of the operating company to furnish or procure the additional capital required for the full performance of its function as a public servant. Under some circumstances the city's legal right to force the company to fulfill its contract as to rates of fare is a barren one. Whether or not it should be exercised depends largely upon the question whether at the particular time and under the particular circumstances it is essential to the public welfare that additional street railway facilities be provided to take care of increasing public needs. In an era of rising prices, when new rails and new cars and all the other items entering into the construction and equipment of a street railway cost more than they did when the railway was originally constructed and equipped, the capital account has to be gradually readjusted to the higher price level through the process of replacement. This process of replacement is going on continually and cannot be halted for any length of time under any circumstances without resulting in the deterioration and ultimate breakdown of the transportation agency. This means that when prices are going up and for a number of years after they have reached a high level, new capital will be required from time to time even though the street railway is not extended a single foot and even though its facilities for carrying passengers are not increased in the slightest degree. If the revenues are limited by a

fixed rate of fare, and if wages and the cost of materials used in maintenance have greatly increased, it may be that the company's revenues will not be sufficient to take care of replacements even though it foregoes entirely the return upon the investment. So here again it becomes a question of sound public policy based upon necessity. If transportation service is recognized as essential to the community; if it is seen that the continuous expansion of transportation facilities is also essential, and if the revenues provided under the rates of fare fixed by the franchise contract are insufficient to provide an income by which additional capital can be attracted into the service, the enforcement of the letter of the contract may result in defeating the very purpose for which the franchise was granted. Here again we see that the community must either be prepared to serve itself in the matter of transportation or else to permit private agencies to serve it on terms and conditions that will enable them to render the service, and particularly that will be persuasive to additional capital to come into the service as needed.

Fifth. In certain cases the revenues of the enterprise may be so limited as compared with the increasing cost of the service as to make it impossible for the company to continue the operation of the cars irrespective of any provision for new capital already invested. If the fair and necessary cost of labor and materials necessarily entering into the essential service, with all practicable economies effected, is still greater than the revenues derived from the traffic at the rates prescribed by the franchise, it is obvious that the service will have to stop. If the service is to be continued upon terms advantageous to the public and just to the employes, the revenues derived from the rates must be at the very least sufficient to pay all of the costs of operation, including the depreciation that is accruing as time goes by; for unless depreciation is taken care of out of revenues the street railway will ultimately break down through lack of provision for essential replacements.

Sixth. Every community, therefore, in times like these, is confronted with the question as to what it *can* do, consistent with preserving street railway service. Cities are confronted with a condition, not a theory. "You cannot get blood out of a turnip." The enforcement of a contract with a street railway company, though legally possible, may, under certain circumstances, be impracticable for the reason that the enforcement of the contract under those circumstances would destroy entirely the company's ability to serve. Unless the city is prepared to undertake the service itself or can find somebody else willing and able to render the service on better terms, it can have no object in driving the existing agency entirely out of the field. In every proceeding for the fixing of rates, and in every negotiation for a resettlement of the relations between a city and the owners of a public utility, it is essential at the outset to look the facts in the face. The street railway interests are prone to confuse the preservation of the present managements with the preservation of the industry itself, but the public ought not to confound the two. In many cases where the financial foundation of the existing street railway system is rotten there may be no remedy for the poverty and impotence of the present time except through a radical reorganization of the company and a scaling down of its excessive obligations. If such action is neces-

sary to the development of a sound future policy, the community ought not to flinch from enforcing it. Bankruptcy, receiverships and reorganization do not necessarily mean the crippling of street railway service. Under certain circumstances they may be absolutely essential conditions precedent to stable and efficient performance in the future.

Seventh. This brings us to the crux of the ethical problem involved. At the present time, when prices have reached an abnormally high level through the exigencies of the World War, the companies are seeking to take advantage of the rules of rate regulation to get the public to recognize and guarantee a valuation based on present prices that will absolutely cover the improvident expenditures, the neglected depreciation and the inflated capitalization of the past, and not only leave the present managements in control but so increase their equities in the property as to make them safe for all time to come from the fear of the bondholder. I have no hesitation in taking the position that the sense of justice and equity does not require the public to agree to an adjustment that would bring such a result. It follows that an increase of fares, if it is to be granted, should be based upon a valuation at normal prices and not at the swollen reproduction cost prices of the present day. In this era of abnormally high prices the cost of street railway service in terms of dollars and cents has greatly increased. On the other hand, the development of the automobile and the motor bus has tended to place an automatic limit upon the value of the service. Every consideration of public welfare demands that street railway rates shall be kept as low as possible without an essential impairment of the service rendered. It may even be that in certain communities, under certain conditions, good public policy will require that a substantial portion of the cost of transportation service be paid out of taxes, but there can be no dispute of the statement that high street railway rates are inimical to the public welfare and to the proper development of urban communities. Therefore, it is essential that the representatives of the public in making adjustments with street railway companies shall insist upon a conservative valuation and a conservative rate of return, as well as upon economy and efficiency in management, in order that rates may be kept down. It is infinitely better to have a low valuation of well-maintained property and a low rate of return with security that the return will be earned and paid, than to yield to the policies for which the street railway industry is now contending which lead to inflated valuations, to increased risk, to higher rates of return, to higher fares, to increased competition, to decreased traffic and to the ultimate breakdown and possible elimination of the street railway as a public utility.

Eighth. A sense of justice does not require, and a soft spot in the heart for the "widows and orphans" does not warrant, the adoption of a policy based on the theory that no matter how the street railway magnates may have gambled and lost in the past their losses are now to be made good and given a public guaranty for all time to come. Equity is not forever yielding the rights of the general public for the sake of preserving the gains or making good the losses of particular individuals who happen to have been engaged in the street railway business at the time when it was looked upon as a speculative industry.

Ninth. In my view, therefore, the policy which the moral forces of America

should adopt with respect to the street railway companies includes a refusal to make good the ancient losses that have been sustained under the terms of franchise contracts, unless it be in those exceptional cases where the losses resulted directly or indirectly from public action taken subsequent to the negotiation of the contracts, and action which could not reasonably have been anticipated by the grantees of the franchise. If, upon a conservative valuation with a conservative but secured rate of return, and with the adoption of all economies in operation consistent with the payment of just wages to the employes and with the rendering of adequate and efficient service to the public, the revenues derived from the contract rates are insufficient to pay the full cost of service, and if the companies have not earned excessive returns under their franchises in the past, then, notwithstanding the requirements of the franchise contracts, the community, in justice, ought to do one of three things—(1) permit an increase in rates sufficient to cover the full cost of the service; or (2) relieve the companies from taxes and public burdens, and if necessary make contributions out of the public treasury to decrease their expenses or to increase their revenues, one or both, to the point where they can make the two ends meet; or (3) take over the properties for public ownership and operation. Whether fares shall be increased should be determined primarily upon the basis of the public welfare. Fares should never be increased to a point where they result in a substantial curtailment of the usefulness of the transportation service.

My answer to the question of ethics is that as a matter of practical necessity the community must either be ready to serve itself in the performance of this essential public function, or else must be prepared to concede the terms and conditions which, under all the circumstances, will induce private enterprise to perform the function. Beyond this, the community is not required to go unless the company comes with clean hands and a humble spirit.

II.

The significance of valuation in the settlement of street railway problems, with a brief analysis of the methods followed and the results reached in the valuation of the Denver Tramway property by the Colorado Public Utilities Commission and by the experts retained by the Tramway Adjustment Committee of Fifty-Five.

The initial step in the preparation for rendering street railway service is the investment of capital. So long as the community has been or is unable or unwilling to make use of public funds or public credit for this purpose the burden of supplying the necessary capital falls upon private enterprise. It has long been recognized in American jurisprudence that public utility property, though privately owned and operated, is property affected with a public interest and subject to various limitations and disabilities that do not attach to private property devoted to private use. As a necessary result of these conditions, the amount of the investment to be recognized, used and protected must be determined at

the very threshold of any intelligent policy of public control or public ownership of a street railway or other public utility. The hostility that has grown up against public utilities, the failures of public regulation, and the slowness and painfulness of the development of public ownership as a policy are all due primarily to uncertainty upon this one point: What is the amount of the capital necessarily invested in the production of the service, and upon which those who render the service are entitled to a fair return?

It is of primary importance that a figure be fixed as the definite capital value upon which as a basis the whole structure of the public relations of the utility can be erected. Within certain limits, it might even be urged that it is more important both to the public and to the utility to get the capital value *fixed*, than it is to have it fixed at the right amount. Nevertheless, fair play to the investors, justice to the public, and the practical requirements of a conservative financial program make it exceedingly important that the capital value as fixed should be somewhere near *right*. One not familiar with the conditions under which street railways have been constructed and operated would naturally assume that the determination of the amount of investment properly to be recognized as an essential factor in the cost of service would be a comparatively simple and easy matter. A great many intelligent people assume that the "value" of a street railway property is *a fact* which can be readily ascertained by any competent valuation engineer. But this is far from being so. A street railway is not a commodity that has a freely determined market value, and what its "fair value" may be for the purposes of public control is determined by the application of a great number of assumptions and theories with respect to which engineers, lawyers, economists, business men and plain citizens have entertained wide differences of opinion. Valuation theory and valuation practice are now in a chaotic condition in this country. Premature or imprudent investments, the manipulation of securities, the neglect of depreciation, the coming of the automobile as a competitor, the appreciation of land values, the violent economic changes that have grown out of the war, and the tightening reins of public regulation all combine to make "actual value," "fair value," or any other measure of the amount of the investment entitled to recognition an elusive concept.

In the midst of this confusion it is hard to get away from the inherent justice of the rule adopted by the regulatory authorities of the State of Massachusetts to the effect that the capital value upon which the owners of a public utility property are entitled to earn a fair return, so long as as the property is devoted to public service, is the amount of capital honestly and prudently invested in the enterprise. Even in the application of this apparently simple rule we encounter many difficulties. The records of investment may be incomplete or inaccurate. In the matter of imprudence, hindsight is better than foresight. Even with respect to honesty, something depends upon the ethical standards of the time. No formula can be devised that will invariably bring a just result unless it be applied by an intelligent, informed and fair-minded tribunal. Just now, however, we are not so much concerned with the niceties of even-handed justice in valuation matters as we are in avoiding the enormities that are being proposed by interested parties in the name of valuation. If free rein is given to the imagina-

tion of the appraisers, it makes little difference whether the rule adopted is "historical cost" or "reproduction cost"; with a given amount of securities outstanding to be protected, they can be safely covered by either method of appraisal.

The Colorado Public Utilities Commission in its Decision No. 223, found that "the present fair value" of the company's property "devoted to public use" as of December 31, 1917, "including a reasonable allowance for working capital," was the sum of \$23,674,100, of which \$20,867,750 was the value of the "city lines." The length of track included in the city lines on December 31, 1917, as shown by the company's annual report for that year, was 203.83 miles, which gives a valuation of \$102,378 per mile of single track. The figure given by the company in the special edition of "Tram-O-Grams" for May 25, 1920, is \$102,796 per mile, but the difference is immaterial. The Public Utilities Commission, dealing with the property as a whole—including the 47.97 miles of interurban lines—found the value to be a little less than \$94,000 per mile of single track. As tending to show that its valuation was conservative, the Commission said in its decision of December 17, 1918 (page 34):

"From the testimony in this case it appears that in similar proceedings, involving street railroad properties of the same general character, the following valuations for rate-making purposes have been determined and have been sustained:

<i>Year</i>	<i>Location</i>	<i>Total appraised value per mile of single track</i>
1913	Toronto	\$167,000.00
1913	Kansas City, Mo.	134,600.00
1915	Detroit	134,300.00
1917	Portland, Ore.	117,000.00
1917	Chicago surface lines	143,400.00"

While it is impossible to establish with any degree of finality the fairness of a street railway valuation by a comparison of the result—reduced to a track mileage basis—with the results reached in other jurisdictions with respect to other street railway properties, track mileage figures, if carefully used, may throw light upon the subject. However, it is a matter of great surprise to me that the Colorado Public Utilities Commission should have been led—no doubt by the imperfect evidence before it—to make such an astonishingly incorrect statement as that which I have just quoted. Of the five appraisals referred to only one—namely, that of the Portland, Oregon lines—was determined "in similar proceedings," and my figures show that the valuation placed by the Oregon Public Service Commission upon the city lines of the Portland street railway was \$98,879 per mile of single track, and upon the entire Portland system—including the interurban lines—\$87,328 per mile of single track. The same figure quoted by the Commission—namely, \$117,000 per mile of track—is cited again by the Denver Tramway Company in "Tram-O-Grams" of May 25, 1920. I cannot identify this figure at all.

The Toronto 1913 valuation was an appraisal made for the purpose of fixing a price at which the city could take over the property eight years in advance of the expiration of the franchise, which was then supposed to be a very advantageous one for the company. The physical property of the Toronto railway, consisting of 120 miles of single track, was valued at \$9,894,483 and the fran-

chise at \$10,713,553. The mileage figure cited by the Colorado commission includes this franchise value.

The Kansas City appraisal of 1913 was made as a basis for the negotiation of a new franchise between the two Kansas Cities and the company. The "value" attributed to the unexpired life of the old franchise represented about 25 per cent of the total valuation agreed upon, and even at that the value of the property per mile of single track was only \$110,000 instead of the \$134,600 quoted by the Colorado commission.

The 1915 Detroit appraisal was not made in a rate proceeding and was not "sustained" so far as I know by any public authority. In fact, the Detroit United Railway in 1919 offered to sell its city lines consisting of 302 miles of track to the City of Detroit for the sum of \$31,500,000, and the offer was rejected by the people on the theory that the price was too high.

The valuation of the Chicago surface lines referred to in the table was the result of an agreed-upon valuation in 1907, plus additions to capital account under the terms of the Chicago Settlement Ordinances, which have notoriously resulted in the inflation of the capital value. When the Chicago Surface Lines went before the Illinois Public Utilities Commission early in 1919 for emergency relief, the Commission looked over their capital account and struck out of the \$157,000,000 total items aggregating \$44,000,000, on the ground that these items were of such a character that they could not be accepted as part of a valuation for rate fixing.*

It thus appears that the valuation-per-track-mile comparison drawn by the Colorado commission in its decision of December 17, 1918, is based upon misinformation and is wholly unreliable and misleading. If the conclusions of the commission are correct, they certainly are not proven by the comparison upon which the commission relied to prove them.

It is a well-known fact that variations in the character and extent of street railway properties in different communities are so great that comparisons of cost or value per mile of single track are apt to be misleading unless all the conditions are carefully scrutinized; yet, if comparisons on this basis were desired, we might turn to the valuation of the local lines of the Los Angeles Railway Corporation made for the Board of Public Utilities of the City of Los Angeles in 1913. In that case a local car system of 351 miles, principally narrow gauge like the car lines of Denver, was appraised at approximately \$19,800,000 exclusive of working capital, and later on, when the California Railroad Commission reviewed this appraisal in a case where the company was seeking to issue additional securities the commission did not establish a final value but dismissed the application, as it was unable to see how the value of the property could be brought up to the face value of the bonds outstanding against it, which at that time amounted to \$23,544,000, or approximately \$67,000 per mile of track.

In 1916 the Massachusetts Public Service Commission made a valuation of the Bay State lines serving Fall River, Lowell, Lynn, Lawrence, Brockton and

* Note. Subsequent to the preparation of this report the Illinois Public Utilities Commission, on November 5, 1920, handed down a final order in the matter of the application of the Chicago Surface Lines for increased fares in which the valuation for rate-making purposes, as of April 30, 1920, was established as "at least" \$159,113,114.56. This would give an even larger valuation per mile of track than the \$143,400 referred to in the Colorado Commission's decision of December 17, 1918. —D. F. W.

other industrial cities and towns in eastern Massachusetts. This system as valued comprised 870 miles of single track, and the value for rate purposes was fixed at \$39,104,370, or \$45,000 per mile.

The City of Seattle on April 1, 1919, acquired by purchase the city lines of the Puget Sound Traction, Light & Power Company, comprising approximately 206 miles of single track, for the sum of \$15,000,000, or a little less than \$73,000 per mile. It should be said, however, that no power plant was included in the Seattle purchase, but it should also be said that the consummation of the purchase at the time was strongly opposed by some of the most intelligent friends of municipal ownership on the ground that the price was grossly excessive, and this opinion is strongly held in Seattle at the present time.

It is well known to all those who have made a study of street railway traffic that the number of rides per capita tends to increase with the size of the community, and so distinguished a transportation engineer as Mr. Bion J. Arnold of Chicago has figured out that the necessary investment in local transportation facilities increases somewhat as the square of the population of the urban community concerned. A comparison of street railway valuations on the basis of the amount of the recognized investment per capita would be likely to show, under conditions otherwise comparable, a larger per capita investment for a big city than for a small one. Such a comparison is of course subject to many qualifications just as in the case of track mileage comparison. The topography of cities is different; the cost of materials and labor is different; the amount of paving is different; the density of population is different, and many other factors require that the results of any comparison be carefully checked before they are accepted as having definite and conclusive significance. However, for the purpose of showing how Denver would stand in the matter of street railway valuation per capita, I have assembled the figures showing the population in 1920, the total valuation of the city lines of the street railway system at certain given dates, the valuation per capita of population in 1920, and the mileage of single track, in 10 different communities ranging in population from Toledo, which is slightly smaller than Denver, to Detroit, which is four times as large. These figures show Denver with a street railway investment of \$81 per capita based on the valuation of the city lines made by the Public Utilities Commission and accepted by the Tramway Adjustment Committee of Fifty-Five for incorporation in the "Service-at-Cost" ordinance last year. Toledo is now voting on a service-at-cost franchise in which the capital value of the property is fixed at \$8,000,000, or the equivalent of \$33 per capita. This does not include power plant, which usually amounts to 10 or 15 per cent in value of the total street railway property. It is noteworthy that Cleveland, which has been operating for the past 10 years under the original service-at-cost plan, and which is known to have one of the best street railway systems in the country, has a recognized investment of only \$40 per capita, and Detroit, on the basis of the purchase price rejected in 1919 because it was too high, has an investment of only \$29 per capita. The case of Milwaukee is one of the most significant among those shown in the table below; for it was in Milwaukee that the policy of valuation of street railway properties by state authority for rate-making purposes first became effective. It will be

seen that in 1920 the amount of the recognized investment per capita in the city lines of Milwaukee is only \$35, which does not include any power plant.

The table is as follows:

STREET RAILWAY VALUATION—CITY LINES

City	Population 1920	Year	Total	Per Capita of 1920 Population	Miles of Single Track
Toledo	243,109	1920	\$8,000,000	\$33	118.06
Denver	256,369	1918	20,867,750	81	203.83
Portland, Ore.	258,288	1917	18,233,371	71	184.36
Indianapolis	314,194	1918	15,000,000	48	161.12
Seattle	315,652	1919	16,154,950	51	228.13
The Kansas Cities	425,587	1920	36,763,954	87	315.73
Washington	437,571	1919	30,376,863	69	192.47
Milwaukee	457,147	1920	16,020,057	35	180.4
Cleveland (including East Cleveland and Lakewood)	865,860	1919	34,218,000	40	364.56
Detroit (including Hamtramck and Highland Park)	1,088,853	1919	31,500,000	29	302.04

There is practically no limit to the values claimed by the street railway companies under the chaotic conditions of the present time. With their securities greatly depreciated in value, with operating expenses so high as to make it doubtful in many cases whether their enterprises can be made fully self-sustaining even with all fare restrictions removed, with the confession upon their lips that the fulfillment of their contracts spells inevitable bankruptcy, the companies still greedily display their ancient losses and disappointments, transmuted by the alchemy of appraisal into "going value," and appeal to the very prices that make profitable operation impossible to prove an enormous increase in the amount of their investment. I am satisfied that the financial structure of the street railway companies in this country has been largely built upon the hope of profiteering, and that the disappointment of this hope during the war period, when so many other lines of business were in fact reaping rich rewards, has made many traction men feel that the electric railways have been the victims of unjust discrimination at the hands of fortune. There can be no doubt whatever that the valuation claims generally put forward by the companies at the present time, if allowed and made good through public guaranties, would put the stockholders in the way of profiteering on an even larger scale than was indulged in by street railway promoters in the early days of electric traction.

Under these conditions what shall we adopt as the correct method of reaching a fair result in the appraisal of street railway property as a basis for public control or public purchase? I believe that the basic figure to be used is the actual capital cost of the property now in existence devoted to public use, with such deduction for depreciation as will measure the extent to which the original investment has been impaired by wear and tear or by the passage of time. If complete records are not available, then the so-called "normal" reproduction cost, based upon a careful estimate of what the existing items of property should have cost at the time when they were installed, supplies, in my opinion, the foundation for a just appraisal. It is neither financially provident nor ethically necessary for the community to perpetuate the false hopes, the blunders, or the negligence

of a past generation of street railway owners and operators. A property that is subject to increasing competition, that never in the world would be reproduced in its present form and extent, and that can hardly see its way out of the woods under any possible scale of rates, cannot properly be said to have an immense "going value" over and above the depreciated cost of its physical plant. If the street railways are to be put upon their feet financially and if their credit is to be restored without the destruction of their primary function as a means of rendering cheap transportation service to the multitudes who dwell in cities, the valuation of their property, established as a basis for rate making, with public guaranties, must be conservative. Losses that have been liquidated years ago cannot now be revived and capitalized, and losses that have occurred in more recent years must in the main be finally liquidated before the street railways can be put upon a sound financial footing.

In this era of war prices the companies beg us to forget all about capitalization, knowing full well that a physical appraisal based upon present prices, without any deduction for depreciation, will in most cases make good all of the securities outstanding, no matter how much they have been inflated, and further knowing that if under pressure of the demand that the investment shall be made attractive to new capital the rate of return upon the appraised value is forced up several points beyond the normal rate of interest on borrowed money, the stockholders can profiteer in the margin between what they receive as a fair rate of return and the actual rate of interest paid on the bonds. For illustration, let us take the case of the Denver Tramway Company, whose outstanding securities, on December 31, 1917, amounted to \$24,872,100, of which \$18,715,800 was bonds and \$6,156,300 stock, as compared with the valuation of \$23,674,100 fixed by the Colorado Public Utilities Commission as of that date. The interest actually paid at the present time on the company's funded debt appears to be \$1,005,790 per annum, or an average of approximately 5.4 per cent. The commission recommended that the company be allowed a return of 8 per cent upon its entire capital value as fixed. This would mean an annual return of \$1,893,928, or \$888,138 in excess of the bond interest. Assuming that all of this excess return were paid out to the stockholders, the company could pay an annual dividend of 14.4 per cent upon the capital stock. Even if the rate of return is figured at 7 per cent, as recommended by the Tramway Adjustment Committee, the excess of the return over and above the bond interest is sufficient to yield a dividend of 10.5 per cent upon the capital stock. My point is that even if the value of the property were no greater than the par value of the bonds outstanding, a rate of return two points higher than the average rate of interest paid on the bonds would yield in this case a dividend of 6 per cent on the stock, and the value of the stock in the market might be established at par, even though it did not represent a dollar of investment.

Thus the companies by their present claims, and in the face of the most untoward conditions, are striving in two ways to put themselves beyond the pale of regulation so far as rates are concerned. If they can get war prices adopted as the basis of valuation, they can snap their fingers at the public so far as overcapitalization is concerned. Then, again, if they can get the rate of return on

the entire investment high enough to make street railway securities under present conditions attractive to the possessors of free capital, that in itself will cover the existing capitalization, even with a conservative valuation, and will make the capitalization itself conservative if the valuation is based upon present prices or is brought up to the level of present reproduction cost by the capitalization of imagined intangibles.

In the light of these conditions, and tested by the standards of sound public policy, what can we say as to the valuation of the Denver Tramway property fixed by the Public Utilities Commission of Colorado and accepted by the Tramway Adjustment Committee of Fifty-Five? The first thing that strikes one in an analysis of the methods followed by the commission is its brave words used in denouncing reproduction cost at war prices, where it says: "The Commission is of the opinion that the cost of reproduction of this property, as submitted by the Tramway Company, based on market prices and conditions prevailing as of January 1, 1918, * * * * should not be given any consideration in arriving at the value of the property in a procedure of this nature." The valuation of the property by the commission's engineers is labeled "Normal Reproduction Cost," and so far as the commission's decision reveals the detailed methods used by the engineers it appears that the unit prices were established partly on the basis of actual cost, and partly on the basis of average market prices prevailing in 1915 or during a ten-year period preceding 1915. Evidently the engineers applied no specific formula strictly but assembled such data as they could for the establishment of unit prices on a pre-war basis. While, of course, I have been unable to check from the data submitted either the inventory itself or the unit prices applied to it, I assume that the inventory is approximately correct and that the unit prices were fairly established on the bases outlined. The value found by the commission illustrates very well the relative unimportance of the base cost of the physical property as arrived at in engineering appraisals. The final result may be so different as to make the basic figure unrecognizable. That depends primarily upon what is done with the three factors of overhead expenses, accrued depreciation and intangible values.

It is noteworthy that in this particular case the normal reproduction cost new of the entire physical property, exclusive of general overheads and working capital, was found to be \$15,257,944, while the final figure reached by the commission as the fair value of the property for rate-making purposes was \$23,674,100, an increase of 55 per cent. This increase, without any offset for accrued depreciation, is apparently made up of the following items:

1. General overhead expenses allowed by the engineers.....	\$3,687,430
2. "Working Capital" allowed by the engineers.....	550,000
3. "Going Value" or other intangibles, allowed by the Commission.....	4,178,726
	\$8,416,156

The general overheads allowed by the engineers are, in my opinion, excessive. They amount to 24 per cent on the base cost of the property. While this is a much lower percentage than is sometimes claimed by engineering experts employed by the companies, it is noteworthy that it is high in comparison with

the allowances made by the Wisconsin Railroad Commission, the Massachusetts Public Service Commission, and the Interstate Commerce Commission in valuation work. As is well known, the Wisconsin commission was a pioneer in the valuation of street railways and other utilities. In its first appraisals it allowed 10 per cent for overheads, but as its work proceeded it found that this percentage was too low, and increased it first to 12 per cent, and finally, after very careful checking, to 15 per cent. The latter is the percentage used in the valuation of the Milwaukee Street Railway property. The Massachusetts Public Service Commission, in the now celebrated Bay State Street Railway Case, where the basis used was the estimated amount of capital honestly and prudently invested in the property, allowed 8 per cent for general overheads.

In 1919, at the solicitation of the electric railway interests, the Federal Electric Railways Commission was appointed by the President for the purpose of investigating the condition of the industry and making recommendations for the solution of the electric railway problem, which was recognized to be acute. This Commission did not attempt to make specific findings as to the proper basis for the valuation of street railway properties, but said:

"No permanent solution of the electric railway question can be found in the absence of a finding of value for rate-making purposes. This applies to commission form of regulation, cost of service contracts, or public ownership and operation. The public should know what it is paying for, and this question cannot be settled without knowing what the property is worth."

At its hearings the Commission had discouraged the introduction of testimony on the subject of valuation, but in its report it referred to the work of valuation of the steam railroads of the United States, and said that in its opinion "the decisions of the Interstate Commerce Commission, based upon long experience and investigation, will in large measure settle the standard of valuation." For this reason it suggested that municipalities and states when engaged in fixing the values of electric railways should familiarize themselves with the practice, experience and decisions of the I. C. C. in these valuation cases. The fact must not be lost sight of that the Federal Electric Railways Commission report was signed by a representative of the electric railways and by a representative of the investment bankers. Particular reference was made to the Interstate Commerce Commission's report in the Texas Midland Railroad valuation, and it is a matter of great significance that in the Texas Midland Case the overheads allowed aggregated less than 8 per cent on the base cost of the property. Furthermore, it is significant that in the Des Moines Gas Case, where the United States Supreme Court said that the master had given sufficient consideration to going value without the allowance of a separate amount for that item, the court's conclusion was based in part upon the fact that the master had allowed overheads aggregating 15 per cent and covering the usual items which, in the court's opinion, were in large part identical with the elements ordinarily considered in the determination of going value. Moreover, in the appraisal of the property of the Denver Union Water Company, May 1, 1914, by Special Master William J. Chinn, appointed by the United States District Court, the amount allowed for overhead expenses was only 15.21 per cent of the base cost new. Mr. Chinn's appraisal was subsequently approved by the United States Supreme Court.

In view of the foregoing, I think that the overhead allowances made by the commission's engineers in the Denver Tramway appraisal are about \$1,500,000 too high. It will be observed that the allowance for interest during construction alone is \$1,783,499, or more than 10 per cent on the total reproduction cost of the property, exclusive of interest during construction and working capital. The amount to be allowed for this item, as for other items of overhead expenses, is largely hypothetical, and depends upon the assumptions made by the appraisers with respect to the length of the construction period, the financial arrangements entered into and the rate of interest paid upon money used for construction purposes, but in my opinion the allowance made is nearly double what it should be.

With respect to the item of \$550,000 for working capital, I assume that this includes both "material and supplies" on hand and "cash working capital." Indeed I find from the Denver Tramway Company's annual report for the fiscal year ended December 31, 1917, that the company on that date had among its assets material and supplies with a book value of \$219,051. It would appear, therefore, that about \$330,000 of the amount allowed by the commission's engineers was for "cash working capital." The matter of working capital in a street railway valuation has been the subject of a good deal of controversy in rate cases. A street railway collects its revenues at the time when the service is rendered, or even in advance of that time to the extent that tickets are sold. A street railway company gets from day to day substantially all of the revenues that it will ever get to cover the full cost of the service as it is rendered. If working capital is to be allowed in a public utility valuation, it can only be on account of moneys necessarily supplied by the investors to cover the company's cash expenditures on account of the cost of service in advance of the time when the revenues applicable to the cost of service are collected. It is hardly necessary to examine the actual financial transactions of a street railway company to see that expenditures on account of the cost of service are for the most part paid after the revenues have been collected. On this point the Federal Electric Railways Commission in its report to the President makes the following statement:

"They (the electric railways) have a continuous and immediate market for their 'goods.' They sell transportation as it is produced. While electric railway traffic fluctuates somewhat from year to year, according to the number of passengers and the prosperity that prevails, and fluctuates somewhat from season to season, from week to week, and from day to day, these fluctuations are relatively unimportant. The business of transportation goes on every day in the year. Under normal conditions the credit of the electric railway business is its relatively small need for 'fluid' or working capital. In this respect it occupies a position more independent than that of any other utility or any other private industry. It does a cash business. Almost 100 per cent of its revenues are collected in advance, through the sale of tickets or at the time the service is rendered, from the collection of fares in the cars. Money flows into its coffers day by day in a relatively even stream. Before it pays the wages of its employes, the salaries of its officers, the claims resulting from injuries and damages, the rentals for the use of property, the interest and dividends on its investment, or its taxes, it has already collected from its patrons in cash full compensation for the service rendered. It does not send out bills."

The Wisconsin Railroad Commission, as a result of its many years of experience in dealing with street railway valuations in rate proceedings, no longer makes any allowance whatever for cash working capital. My own analyses of the cash receipts and expenditures of the Public Service Railway Company of New Jersey and of the detailed balance sheets of the Cleveland Railway Com-

pany have thoroughly convinced me that even as to the item of material and supplies the cash required to pay for them in advance of the time when they are used is much more than offset by a company's deferred payments for salaries, wages, taxes, interest, etc. In my opinion, therefore, neither the book item "material and supplies" nor "cash working capital" has any place in the permanent valuation of a street railway property for rate purposes.

The Colorado commission discusses going value at considerable length, but does not clearly indicate the amount actually allowed for this item. Prof. Milo S. Ketchum, in his report to the Tramway Adjustment Committee, reached the conclusion that the commission had allowed about \$2,500,000 for the going value of the city lines. The exact amount cannot be deduced from the commission's decision, for the commission does not give details in support of its final figure, but says: "The amount arrived at represents, in other words, the present fair value of the property based upon its cost of reproduction under average or normal conditions, its present service condition and efficiency, and all other relevant facts." As we have seen, the difference between the reproduction cost new plus working capital and the final valuation figure for the entire property is \$4,178,726. If the commission, in fact, in arriving at its final figure, made any allowances for accrued depreciation, then its allowance for going value or other intangible elements must have been even greater than \$4,178,726. For this reason I shall assume that no deduction was made for depreciation, and that the figure just given represents the commission's estimate of going value of the property. If that be so, it will be seen that going value amounts to 22 per cent of the reproduction cost new of the physical property, including the overheads, but excluding working capital, or 27 per cent of the base cost of the physical property.

There is still great uncertainty as to what going value in the street railway business is. The United States Supreme Court has discussed this element of value with respect to other utilities, such as gas and water supply, where a going concern is enabled to do business and to earn a revenue by reason of the fact of its having established physical connections between its distribution system and the buildings in which its consumers live or do business. In street railway operation I know of nothing closely analogous to the value of these connections. Even at that the United States Supreme Court, as I have already indicated, approved the valuation of the Des Moines Gas property without any separate allowance for going value. In the Denver Union Water Case it approved the master's finding with a separate allowance of \$800,000, or the equivalent of 6.35 per cent of the total value of the property with this element excluded. In the water case, however, the master expressly stated that in arriving at the value of the physical property he had made "no addition whatsoever because such property constitutes part of a long established plant doing a business which yields an income." Personally I have no doubt at all that the valuation of the physical property made by the master in the Denver Water Case and the valuation of the physical property made by the master in the Des Moines Gas Case were as nearly alike with respect to the consideration of the value of the property as a going concern as two appraisals could well be, but in one case the master said that he had valued the company's property on the basis that it was in successful opera-

tion, while in the other case the master expressly stated that nothing was included in the physical appraisal on this account, and so made a separate allowance. The Supreme Court approved the results in both cases. It is perfectly clear that a value reached by a reproduction cost appraisal of the physical property is based upon the assumption that the property is alive and not dead, for if it were not "going" or at least if it did not have the right to go, and the opportunity to earn money by going, it would be worth less than its reproduction cost. Indeed, it might have very little value except as junk.

The Wisconsin Railroad Commission in its decision of June 24, 1920, with respect to the fares to be charged by the Milwaukee Electric Railway and Light Company, complying with the mandate of the Dane County Circuit Court, deducted accrued depreciation from the cost new of the physical property, and set up a separate allowance for going value. It fixed the sum of \$500,000 as the going value of a property otherwise appraised at \$15,500,000. This makes the going value allowance between 3 per cent and 4 per cent of the value of the physical property.

Taking all these things into consideration, I cannot escape the conclusion that the allowance for going value made by the Colorado commission in the case of the Denver Tramway Company, and approved by Prof. Ketchum, was grossly excessive. I doubt if any separate allowance whatever for going value, under the circumstances of the Denver Tramway Company, is required under the rulings of the United States Supreme Court, but in any case I am sure that it would be difficult to justify an allowance of more than 5 per cent of the cost new of the physical property.

We now come to the question of depreciation. The figures thus far discussed assume that the property is brand new. The treatment of depreciation is a subject of violent controversy in valuation circles. The United States Supreme Court has repeatedly held that accrued depreciation must be deducted from cost new when the reproduction method is used as a basis for arriving at fair value for rate purposes. Whether accrued depreciation should be deducted where the "actual cost" or the "capital honestly and prudently invested" is the basis used has not been made quite so clear. It is now fully recognized that depreciation is an operating expense. From this it follows that if depreciation has been neglected a portion of the operating expenses has been deferred, and if the property is retained in the capital account at its cost new, the result in effect is the capitalization of unpaid operating expenses. Such a policy, if permanently followed, cannot be justified on any theory of sound finance. If a street railway company operating under a franchise contract containing specific limitations upon the rates of fare has failed to make provision for depreciation as it accrued, whether the failure was due to insufficient earnings or to a propensity for paying dividends on stock not representing cash investment, it cannot be justly claimed that the public when it makes a new deal with the company at the latter's solicitation should make good all of the company's past losses, as well as guarantee it against losses in the future.

In its decision of December 17, 1918, the Colorado commission fixed \$500,000 as the amount of annual depreciation accruing on the entire property in

excess of current maintenance. It found that during the year 1917 the company had in fact included in its maintenance accounts the sum of \$150,000 for replacements properly chargeable to a depreciation reserve. It appears, therefore, that in the commission's opinion the value of the physical property at the end of 1917 must have been \$350,000 less than it was at the beginning of the year as a result of the uncared for accruing depreciation. The commission did not state the amounts of money included in the maintenance accounts for years prior to 1917 which were properly attributable to replacements, but if we assume that on the average during the preceding period of ten years the difference between the amount actually spent for replacements and the amount of the accruing depreciation as fixed by the commission was the same as it was in the year 1917, we should have to conclude that, disregarding additions, extensions and betterments, the physical property on December 31, 1917, must have been worth \$3,500,000 less than it was ten years before. I make this computation merely to show how the Colorado commission, by its treatment of annual depreciation, proves that the physical property in its present condition must be worth very much less than cost new. It is said that the Denver Tramway property has been well managed and maintained, and is in good operating condition; but it has been well established in the case of the Cleveland Railway Company that a standard of 70 per cent condition of cost new is a very high standard and one that cannot easily be maintained. True, many engineers who ignore the depreciation that cannot be seen and measured appraise street railway properties and report them to be in a condition as high as 85 or 90 per cent of cost new. Here again the conclusion reached depends upon the assumptions made and the methods used, but I have very little doubt that a consistent application of the commission's findings with respect to annual depreciation would reveal an accrued depreciation of at least \$5,000,000 in the Denver Tramway property on the basis of the reproduction cost estimate submitted by the commission's engineers.

Taking into consideration the several matters to which I have called attention, I think that a fair valuation of the entire Tramway property, with deduction for accrued depreciation, would be not more than \$14,000,000 or \$15,000,000. It all depends upon the assumptions made, the valuation rules followed, and the practical interpretation of the word "fair" in a readjustment of the public relations between the city and the company, but so far as I have been able to determine from the data submitted to me, I should expect that the result indicated would be reached by the application of correct rules of valuation and a proper consideration of the relative claims of the company and the public.

So far as I can see, the only escape from this conclusion would lie in the acceptance of the claim that war prices should be used as the basis for a present-day valuation on the theory that the purchasing power of money has been cut in two through economic changes over which neither the City of Denver nor the Tramway Company had any control, and that, therefore, a valuation of \$30,000,000 in the money of today represents no greater purchasing power than a valuation of \$15,000,000 in the money of 1914. In certain respects this theory is plausible, but as applied to a public utility property mortgaged to the full extent of its original cost the application of the theory works out a monstrous injustice. No

street railway company considers for a moment the necessity of voluntarily going to its bondholders and doubling the rate of interest on the bonds outstanding in order that the owners of these securities may receive the same amount of income, measured by purchasing power, that they received when the bonds were first issued. The result is that if street railway valuations are now fixed on the basis of war prices for the purpose of making good to the owners the decrease in the purchasing power of money, the losses which the bondholders have already incurred through the depreciation of the dollar will not be made up to them, but these losses will be transformed into profits conferred upon the stockholders, whose real financial interest in the property may be little or nothing. From the practical point of view, it would mean that every tribunal charged with the regulation of the rates of public utilities would be setting up in the business of guaranteeing the purchasing power of the dollar so far as the utilities under its control were concerned, and thus we should have a motley group of regulatory authorities assuming jurisdiction over the money of the country and conferring special favors upon the particular groups of property owners who happened to have invested in public utilities. It is not yet certain how the highest courts will finally decide with respect to the use of war prices in the valuation of public utility property for rate purposes, but thus far the weight of judicial opinion and sound reason is, I believe, in support of the position taken by the Colorado commission, when it flatly refused, in this case, to consider war prices as a basis for fair valuation.

III.

A brief analysis and evaluation of the "Service-at-Cost" ordinance drafted by the Tramway Adjustment Committee and of the "Elastic 6c Fare" ordinance, both of which were submitted to popular vote at a special election October 22, 1919.

The service-at-cost plan is now being advocated by the electric railway companies throughout the country, and this plan has recently been recommended by the Federal Electric Railways Commission in its report. The plan was originated in Cleveland ten years ago as a means of bringing to a conclusion a long and bitter controversy between the city and the street railway company. It has since been adopted in a number of other American cities, but in no other instance that I know of have its fundamental conditions been so favorable to the public as in the case of Cleveland. The testimony given before the Federal Electric Railways Commission at its hearings in Washington last year and the general consensus of opinion of those familiar with street railway conditions in different cities of the country indicate that service at cost, as worked out in Cleveland, has proved to be the most satisfactory plan of street railway operation yet devised under private management. But even in Cleveland, where the spirit of cooperation between the city and the company in the administration of the plan has been quite remarkable, certain weaknesses have developed which show that it is far from perfect and that it can hardly be regarded as a permanent and final solution

of the public relations of the street railways. As worked out in other cities, service at cost has been modified so as to be in many respects more favorable to the companies, although even in Cleveland the company went through the war with flying colors and maintained its credit during the period when most other street railways of the country were bankrupt or on the verge of bankruptcy.

A flexible fare is one of the most characteristic features of a service-at-cost plan, but in the Cleveland franchise an upper limit is established beyond which the fares may not go; while in the plan as advocated by the electric railway companies and as recommended by the Federal Commission, no such upper limit is established. In the light of recent fare tendencies it requires very little consideration to show that the difference between an upper limit and no upper limit in a service-at-cost plan is a radical and fundamental difference. Under the theory of regulation by state commissions or by other public authorities exercising the police power, it is well established that the rates charged by a public utility may not be higher than the service is reasonably worth. In the past the necessary cost of the service has been regarded as the low limit and the reasonable value of the service as the high limit of rates, and so long as the cost under normal conditions was uniformly less than the value there was no conflict in the practical application of the two rules. But since the advent of automobile competition, and particularly since the vast increase in the cost of service under the influence of the war, it is becoming apparent that in many cases the full cost of local transportation service, with a liberal return on past investments figured in, is likely to be greater than the true value of the service rendered to the car riders. The adoption of the service-at-cost plan without any upper limit on street railway fares exempts the companies from the effect of the old limitation inherent in the police power and permits them to charge under public guaranties any rates—no matter how high—up to the point where they yield sufficient revenue to cover the entire cost of service, including the established rate of return upon the capital value. In theory, this change is one of vast moment. It means that hereafter—if the service-at-cost plan as outlined is adopted—the rates of fare on urban street railways will be fixed wholly on the basis of the financial needs of the enterprise, and to no extent whatever will be controlled or limited by social requirements. In other words, street railway fares, for all practical purposes, will be removed from public control and the character of the street railway as a public utility will be impaired and, perhaps, in some cases destroyed.

In addition to the flexible fare, the establishment of a fixed capital value is an important characteristic of the service-at-cost plan. Here again, the public interest was better protected in the original Cleveland ordinance than in most, if not all, of the service-at-cost plans subsequently adopted. The fixed capital value serves not only as the open door to public ownership in case the experiment of service at cost under private management should fail, but also as one of the chief determining factors in the cost of service and, therefore, in the control of the rates to be charged. It is not too much to say that a service-at-cost plan might be excellent in every other respect, and yet have its effectiveness entirely destroyed by too high a valuation.

A third element of great importance is the rate of return to be paid on the

capital. From the point of view of its effect upon fares, this may be quite as important as the valuation itself. In this respect, also, the original Cleveland plan was reasonably conservative, as the return to capital represented by stock issued at par was fixed at 6 per cent, and the return to capital represented by bonds was fixed at the actual interest paid on the money, not exceeding 6 per cent.

It can readily be seen that a service-at-cost plan with no upper limit as to fares, with an excessive valuation, and with a "liberal" rate of return will be so different from the Cleveland plan in its relative effects upon the public and the private interests concerned as to fall into an entirely different category.

The points I have mentioned affect the price that is to be paid for the service rendered, but under service at cost it is also necessary that some provision be made by which the public will be enabled to see that it gets the worth of its money. In other words, it is recognized as an essential characteristic of service at cost that the control of the service shall be wholly or predominantly in the hands of officials representing the community.

Turning to the Denver service-at-cost ordinance prepared by the Tramway Adjustment Committee of Fifty-Five, and submitted to the electors last year, it will be noticed that it contained no upper limit whatever upon the fares to be charged except the cost of the service. On the other hand, it did prescribe a definite though low minimum below which the fares could not go, no matter how little the cost of service under future conditions might become. This ordinance, therefore, is subject to the general objection that it would relieve the company of the obligation to charge rates not in excess of the reasonable value of the service rendered except as that value is measured by cost, including a full return upon capital. In this respect the ordinance was theoretically much more advantageous to the company and much less advantageous to the city than the Cleveland service-at-cost model.

In the second place, the recognized capital value in the Denver ordinance was \$20,867,750, or \$81 per capita on the basis of the 1920 population as compared with a capital value of \$34,218,000 on December 31, 1919 in Cleveland, or the equivalent of \$40 per capita of the 1920 population. If my analysis of the valuation fixed by the Colorado Public Utilities Commission is anywhere nearly correct, then it shows that the capital value recognized in the Tramway Adjustment Committee's ordinance was excessive. Indeed, the importance of conservatism in laying the foundation for the financial rehabilitation of a street railway system at the present time is so great that the valuation accepted in the Denver ordinance might have proven fatal to its success, regardless of any consideration of the public rights in the matter.

It will be noted, also, that the rate of return fixed in the Denver plan was 7 per cent upon the entire capital value of the city lines. This would amount to \$1,460,742. If the same rates of return established by the Cleveland plan had been fixed in the Denver ordinance, the total annual return paid to capital on the basis of the initial investment and the amount of bonds now outstanding would have been approximately \$350,000 less.

It will be seen, therefore, that from the point of view of what the car riders would have to pay for the service rendered, the Tramway Adjustment Commit-

tee's plan was much less favorable to the public and much more favorable to the company than the Cleveland plan.

If we turn to the matter of the extent and quality of the service rendered, we find that in the Tramway Adjustment Committee's plan the city reserved no affirmative control whatever over extensions, additions and improvements; while its supervision over schedules, routes and transfer regulations was to be exercised through the Board of Tramway Control consisting of three members—one to be appointed by the Mayor, one by the City Council, and one by the Denver Tramway Company. At first blush it would appear that the city, with a two-thirds representation on the board, could have everything its own way. Upon further examination, however, we see that the company's representative is to be removable at any time at the pleasure of the company. There would be no question whatever about his being continuously and completely responsible to the company's point of view as to its own interests. On the other hand, the Mayor's representative was to hold office during the term of the Mayor that appointed him, and was not subject to removal by the appointing power or by anybody else. Similarly, the member appointed by resolution by the majority of the City Council was to hold office for five years with no provision whatever for his removal prior to the expiration of his fixed term. It can readily be seen that with complete responsibility on the part of the company's representative to the interests which he was appointed to serve, and with the two city representatives appointed by different political authorities, and in neither case responsible to the appointing power or to the people of the City of Denver for the way they protected the public interests, the control of service reserved to the city would in all likelihood prove to be nominal rather than real. The Tramway Company would have a supreme interest in controlling either the Mayor or the Council when the original appointments were made, or else in getting control of one or the other of the city representatives after they had been appointed. I cannot think that such a plan of control could possibly work out for the public interest.

One of the most obvious and fundamental theoretical defects of the Cleveland plan is the fact that the return to the investors is a fixed, inflexible amount which under all ordinary circumstances, within the limitations of the earning power of the enterprise under the maximum rate of fare, will be paid; whereas, no amount of effort on the part of the management—no matter how commendable—will result in yielding any additional reward to the investors who are supposed to appoint and control the management. This is recognized to be one of the fundamental weaknesses of the whole service-at-cost scheme. It inheres even in the scheme of continuous state regulation whenever the rules restricting the companies to a fair return are consistently applied. An effort to get away from this difficulty by providing some incentive for economical and efficient management through the use of a sliding scale schedule applicable to the return upon capital and dependent upon the rate of fare charged was made in the Dallas and Cincinnati service-at-cost ordinances, but in neither case thus far has the sliding scale come into play, and for that reason no positive experience with the effect of the sliding-scale plan in the control of street railway fares is yet available. The scheme is adapted from the so-called Boston sliding scale which was applied

some years ago in the case of the Boston Consolidated Gas Company. In fact, the plan was originally imported from England where also it has been applied to gas companies. The Denver "Service-at-Cost" ordinance, as drafted by the Tramway Adjustment Committee, incorporated the sliding scale feature. This was based upon the assumption that the service-at-cost experiment would be started off at a 6-cent fare. The company would be entitled to an additional $\frac{1}{4}$ of 1 per cent on the capital value so long as it was able to maintain this initial rate of fare, and if it succeeded in reducing the adult fare to $5\frac{1}{2}$ cents by ticket, it would be entitled to take as a part of the return upon capital another $\frac{1}{4}$ of 1 per cent, thus raising the ultimate return to $7\frac{1}{2}$ per cent. In like manner, if the company succeeded in reducing the fare to 5 cents its ultimate rate of return would be $7\frac{3}{4}$ per cent, and if it reduced the fare below 5 cents, the ultimate return upon the investment would be a full 8 per cent.

While I recognize the need for some sort of an incentive to induce the management to provide efficient and economical operation under a service-at-cost plan, I have not had any confidence that the sliding-scale scheme, with its automatic adjustment of the rate of return to the rate of fare, can work out beneficially to the public in the case of a street railway. Any automatic plan that furnishes a direct incentive to economy is likely to result in a scamping of service, greatly to the detriment of the traveling public. It may be that in the case of gas companies, where the standards of service are relatively simple, this difficulty can be overcome by diligent public control, but in the case of local transportation the elements entering into good service are numerous and complex, and it seems to me that any scheme of public control of service is likely to be thwarted if at the same time a definite reward is offered to the management for making the service poor. If low fares mean high dividends, the management of a street railway responsible to the stockholders will be pretty sure to see that the number of straphangers is not unduly diminished, and that all of the elements of service which cost money are restricted as far as practicable.

It is one of the merits of the service-at-cost idea that the control of the service to be rendered is to be vested in the hands of the public, and that the public can have any kind of service it wants if only it is willing to pay for it. This idea negatives any scheme of control through an automatic device for the manipulation of financial motives. I am satisfied that under any service-at-cost plan the control of the cost of service, as well as the control of the quality of service, must be effected through the exercise of continuous detailed attention and pressure on the part of those representing the public interest. For this reason I do not believe in the automatic sliding scale method as a substitute for vigilant regulation and the frequently repeated exercise of responsible and intelligent judgment.

From what I have already said it will be clear that in my judgment the Tramway Adjustment Committee's service-at-cost plan was seriously defective. The limits of this report do not permit me to go into a complete analysis of all the features of the ordinance, but without going any further in details I may say that in my opinion the purchase clause, the arbitration clause, and the provisions for the fare control fund and for the renewals and depreciation reserve fund are

all open to criticism. On the whole, I should say that the ordinance was by no means as carefully worked out or as well calculated to protect the public interests as the Cleveland plan. Moreover, it strikes me that if the service-at-cost idea is to be weakened the farther it gets away from its point of origin and the more light we have upon its merits and defects, then instead of being a panacea for the ills of the street railway business, as many enthusiasts would now regard it, it will prove to be a scheme fraught with danger, and may even have the effect of making the ultimate solution of the transit problem more difficult instead of easier. Surely, no city can afford to adopt the service-at-cost plan except after the most careful deliberation, and with the most complete safeguarding of the public interest.

With respect to the "Elastic 6c Fare" ordinance, not much need be said. Its sole purpose was to provide machinery for moving fares up and down to meet changes in wage schedules of the Tramway employes. It appears that the effect of this ordinance would have been to establish a tendency toward the stabilization of wages at the point where they were at the time when it was voted upon. While the increase of fares to cover an increase in wages, or the decrease of fares to take up the slack brought about by a decrease in wages, was not to be mandatory upon the board of control but merely permissive, the action of the board in case it decided to change the fares was closely circumscribed. Where wages had been increased the fares could not be increased *more than* sufficient to take care of the wage increase; and where wages had been decreased the fares, if lowered, could not be decreased *less than* sufficient to cover the amount of the decrease in wages. The best that can be said for such a plan is that nobody can tell for certain how it would work out. Its apparent purpose was to make the rate of fare flexible only with respect to changes in the rates of wages. It did not contemplate a fluctuation in rates of fare as a result of general causes, such, for example, as the introduction of one-man car operation, or changes in the cost of power or materials entering into street railway service. Apparently, it did not contemplate the possibility that the increase in traffic might under certain conditions absorb wage increases, though it is quite possible that under the terms of the ordinance this could have been taken into consideration by the board of control. One provision of the ordinance which I never like to see in such a measure was to the effect that fares could not be increased to take care of a wage increase based upon an hourly schedule above the average paid to street railway employes at the time in five other cities. The ordinance did not even define this standard as being applicable to motormen and conductors, and under its terms the board of control would have been compelled to figure out in the best way it could the average wage schedule paid to the "employes" in the five cities mentioned. In any case, the adoption of such a standard is a mere lazy man's way of avoiding responsibility. Such a plan would throw upon the employes of the other cities the primary burden of securing wage increases which the Denver employes would then—with little effort of their own—proceed to enjoy. However, if the employes of the other cities or some of them were unsuccessful in their efforts to secure higher wages, the Denver employes would have to "tag along." For these

reasons I do not think that the "Elastic 6c Fare" ordinance was a measure designed with sufficient care and skill to be used as a means of settling either the financial or the labor problems of the Denver Tramway Company.

IV.

A discussion of the methods pursued by the Denver Tramway Company with respect to maintenance, replacements and depreciation, as revealed by the company's reports.

It appears from the annual reports of the Denver Tramway Company to its stockholders, and from the statements submitted by the company to the Tramway Adjustment Committee, that prior to the company's appeal to the Colorado Public Utilities Commission for permission to charge an increased fare little or no provision had been made for accruing depreciation other than the current expenditures for maintenance. In its appeal to the Utilities Commission the company submitted an estimate intended to show that for the year 1917 "the annual accrual for depreciation, renewals and obsolescence" was approximately \$892,140. In Tramway Letter No. 6, submitted to the Tramway Adjustment Committee under date of February 8, 1919, the company explained the basis for this estimate. The amount charged to maintenance and renewals in 1916 and 1917 by the San Francisco Municipal Railway was figured out at \$7,434 per mile; the amount charged in Cleveland, at \$5,780 per mile, and the amount charged by the Chicago Surface Lines at \$5,310 per mile, showing an average of \$6,174 per mile for these three systems. The Tramway Company then assumed that \$5,000 per mile on the city lines and \$4,000 per mile on the interurban lines would be a proper figure for Denver, and from the \$1,215,000 per annum thus arrived at, it deducted the \$320,860 actually spent in current maintenance in 1917, and thus reached the figure \$892,140 claimed by it as the necessary allowance to cover depreciation accrued during that year and not cared for by maintenance.

The Colorado commission found that during 1917 \$150,000 of the amount expended for maintenance was for replacements properly chargeable to depreciation reserve. Its engineers estimated the annual depreciation requirements of the entire system of the Denver Tramway Company at \$677,644 on the straight line basis, and at \$435,275 on a 4 per cent sinking fund basis. Without stating the basis for its final decision and without prescribing the method to be used by the company in handling the depreciation reserve, the commission fixed the annual depreciation requirements at \$500,000, of which 90 per cent was attributed to the city lines.

Subsequent to the commission's decision, the Board of Directors of the Denver Tramway Company, in July, 1918, decided that \$300,000 per annum should be "the minimum annual accrual to cover depreciation and renewals," and this decision was made retroactive to cover the year 1917. The company's annual report for the year 1918 shows that the sum of \$218,448.21 was charged to profit and loss on account of "additional depreciation accrual" over and above

the amount actually expended for renewals in 1917. In an exhibit attached to Tramway Letter No. 5, addressed to the Tramway Adjustment Committee under date of February 8, 1919, it is shown that the amount actually expended for replacements and charged to maintenance during the year 1918 was \$350,000 as compared with the sum of \$150,000 so spent and charged during the preceding year, and \$150,000 estimated to be so spent and charged during the year 1919. The real questions to be determined are (1) the amount of depreciation actually accruing from year to year, and (2) the extent to which this depreciation is being offset by expenditures charged to maintenance.

This involves a discussion of the fundamental theory of depreciation and the relation between annual depreciation allowances, the depreciation reserve and the accrued depreciation to be taken into account in the determination of the present fair value of the property for rate purposes. It is generally recognized by regulatory authorities and students of public utility finance that one of the primary causes of the financial breakdown of the electric railways has been their neglect of accruing depreciation. The present managements of the companies say that not only did their predecessors, in their optimism with respect to the future earning power of the electric railways, fail to see the need of a depreciation reserve, but that their earnings were in fact too small to permit of their setting such a reserve aside if they had recognized the need of it. The situation seems to be this: when a street railway is new, the necessary expenditures for maintenance are very small, but as the system grows older the cost of maintenance and replacements gradually increases until, as the experts say, the system has gone through a complete cycle of renewals and has settled down to the normal condition of an old property. While there may be considerable difference of opinion as to what that normal condition is, measured in a percentage of cost new, it is admitted that this difference represents capital that has been used up in the rendering of service. It is what might be termed an invisible operating expense. However, it is further admitted that in the ordinary course of development of a going street railway property it will never be possible by a wise expenditure of money to restore the capital so used up. It is not correct to assume that the entire property is going to depreciate down to zero and then have to be replaced all at once. On the contrary, the particular items of property have different useful lives, and are renewed from time to time as occasion requires. After the property has once settled down to a normally depreciated condition, the renewals come along from year to year in a comparatively steady stream, and a sum equivalent to the full amount of accruing depreciation, on the average, will have to be spent each year for replacements. If during the early life of the plant the full amount of accruing depreciation has been set aside out of earnings and not paid back to the investors, a reserve will have been accumulated far in excess of any actual need for replacements. Theoretically this reserve represents the permanent depreciation of the property. As it cannot be used in the maintenance of the property, it should have been returned to the investors, and a corresponding reduction in the capital account made, or else it should have been invested in additions and betterments without any increase in the capital account. In the one case the capital account upon which the investors are entitled to earn

a fair return under the established rules of rate regulation will have been reduced from the original cost of the property to the original cost less permanent accrued depreciation. In the other case, the property will have been enlarged from time to time so that the original cost of the property, including the cost of additions and betterments, less the amount of the accrued depreciation, will at all times be equal to the construction cost of the initial plant, and thus the integrity of the company's investment will be protected.

It may be said that the whole issue in the matter of depreciation is bound up with the confusion in regard to what the present treatment of past history should be. In the Knoxville Water Case the United States Supreme Court clearly held that in a rate proceeding accrued depreciation should be deducted from the cost new of the property, and that, if the company had failed in the past to charge rates sufficient to take care of depreciation as it accrued, or having collected sufficient revenues for the purpose had dissipated them in the payment of dividends or otherwise, the public could not now be made, through a higher schedule of rates, to make good the company's past negligence. Under this rule it seems to be clear that when the rates of a street railway are first fixed on the service-at-cost principle, whether through the exercise of the police power or by means of a negotiated contract, the full amount of the accrued depreciation of the property up to that time should be deducted from cost new in arriving at the rate base. Therefore, assuming that the property has reached a normally depreciated condition, the entire amount of accruing depreciation will be offset on the average from year to year by expenditures for replacements, and under these circumstances there is sound reason for the practice of combining maintenance, depreciation and renewals in a blanket allowance which, in general, will correspond with the amount of money actually put into the property from year to year as a part of the cost of operation. True, prudence and the fact that even in an old property replacements do not come in an absolutely even stream, dictate that the amount set aside out of earnings should be sufficient to accumulate a moderate reserve to cover the unevenness in the actual requirements for replacement expenditures.

The San Francisco Municipal Railway, starting out as a new enterprise, adopted the policy of setting aside a fixed percentage of the gross revenues for depreciation, and this reserve, during the first seven years of operation, accumulated to the extent of \$15,000 per mile of track in service at the end of the period. I do not know just how this San Francisco depreciation reserve is being used, but to the extent that the bonds issued against the property are being paid off and to the extent that additions and betterments are being made, this fund could properly be used for one or both of those purposes. In either case the result would be in effect the decapitalization of the property to the extent of the permanent accrued depreciation provided for.

In Cleveland, under the service-at-cost plan, no separate depreciation reserve has been established, but a certain amount per car mile is taken out of current revenues and expended for maintenance and renewals, which are treated as a part of operating expenses. Moreover, one of the chief reasons why the current expenditures for maintenance and renewals on the Cleveland Railway system

are so liberal is that, under the terms of the service-at-cost ordinance, the entire cost of replacements is charged to operating expenses, even though the new item of property may cost twice as much as the original cost of the identical item replaced. In other words, under the Cleveland plan the replacement of identical items of property is treated as an operating expense, regardless of fluctuation in costs, whereas under the ordinary accounting rules prescribed by the Interstate Commerce Commission and by the state utility commissions generally, it is not the property itself but the original cost of it that is replaced and charged to operating expenses. In a period of rising prices and for quite a number of years after prices have reached a high level, the Cleveland policy results in a much swollen maintenance account, for the reason that the street railway system is being rebuilt on the basis of a higher price level, without any corresponding adjustment and increase in the capital account.

Attention should be called in this connection to the confusion resulting from the unwarranted claims advanced by the Denver Tramway Company in its statements to the Tramway Adjustment Committee, and in fact frequently advanced by street railway companies in rate proceedings during the present abnormal times, to the effect that on account of the great increase in the cost of labor and materials allowance for accruing depreciation to cover the cost of replacements ought to be greatly increased, when the fact is that under the systems of accounting prescribed by the commissions the portion of the cost of replacements representing an increase over the original cost of the articles replaced is not to be charged to operating expenses at all, but to new capital.

An allowance for depreciation, in addition to the expenditures for current maintenance as reflected in the companies' statements of operating expenses, is frequently made by commissions in establishing rates, but it is impossible to say in any given case whether or not the allowance is correct or excessive, except upon the basis of an actual detailed examination of the company's operating expenses and of the condition in which the property, as a matter of fact, is being maintained. True, the lesson of neglected depreciation ought to be well enough learned so that in the future the regulating authorities will lean toward liberality in the amounts allowed for depreciation, but will accompany this liberality with the enforcement of strict rules respecting the use of the moneys so allowed. Financial conservatism requires that depreciation shall be taken care of as it accrues, but this does not mean that the public shall give up its rights under the Knoxville Water Case rule, and, in the guise of an allowance for accruing depreciation, enable the company in the future to build up a reserve to make good all of the depreciation that has already accrued. The Denver Tramway Company states that in 1918 it spent \$350,000 for renewals. If, as a matter of fact, the property was in as good a condition at the end of the year as it was at the beginning of the year, this would indicate that the entire amount of accruing depreciation had been taken care of through maintenance, and if, in point of fact, the condition of the property was improved during the year, this would indicate that not only all of the accruing depreciation had been taken care of, but that some of the depreciation accrued in previous years had been made up.

Upon the data submitted I cannot determine closely the amount which the

Denver Tramway Company ought to spend from year to year in maintenance and renewals in order to keep its physical property up to its present condition. However, it is clear that track mileage is a very imperfect basis for the determination of what such an allowance should be. Under the Cleveland plan the allowance is based on the number of car miles run, which, in my opinion, is a better, though by no means a perfect basis, for the determination of reasonable requirements. The Denver Tramway Company's annual report shows that in the year 1917 the number of passenger car miles run on its entire system was 12,077,487. At the average rate allowed under the Cleveland ordinance during the year 1917, namely 4.9 cents per car mile, the total expenditures of the Denver Tramway Company for that year should have been approximately \$600,000, as compared with the \$322,860 reported by the company as its actual expenditures for current maintenance. The Cleveland allowance has since been practically doubled, but the necessity for the increase was in large part due to the fact which I have already explained, namely, that the full cost of replacements is charged to operating expenses under the Cleveland contract, even though at prices now prevailing this cost is very much greater than the original cost of the articles replaced.

Whatever policy is followed with respect to accruing depreciation, it should be made to "tie in" with the treatment of accrued depreciation in the valuation. The company cannot be permitted in one breath to assert that its property for valuation purposes has not depreciated a dollar, while in the next it stoutly maintains that for revenue purposes the property is going to the scrap heap on the straight line basis to the tune of several hundred thousand dollars a year.

Respectfully submitted,

DELOS F. WILCOX

NOTES AND REFERENCES

TO

ANALYSIS OF THE ELECTRIC RAILWAY PROBLEM

CHAPTER I

NOTE 1 (*Page 3*). The New York City traffic figures for the year ended June 30, 1920, are as follows: Total Revenue Passengers, 2,364,775,067. Revenue Rides Per Capita, 421.

CHAPTER II

NOTE 1 (*Page 6*). On May 1, 1920, the wages of motormen and conductors in Cleveland were advanced to the following scale: 70 cents per hour for the first three months, 73 cents for the next nine months and 75 cents thereafter. The same scale was put into effect in Detroit on May 16, 1920. In Chicago a still higher scale was adopted as of June 1, 1920, the rate on the surface lines being 75 cents for the first three months, 78 cents for the next nine months and 80 cents after the first year, with 82 cents for night operation. In Philadelphia the trainmen are not members of the Amalgamated Association of Street and Electric Railway Employes, but their wages are adjusted from time to time to the average wages paid to trainmen in the four cities, Chicago, Cleveland, Detroit and Buffalo. On this basis the Philadelphia wage rate should have been increased to 72½ cents on June 1, 1920. The increase could not be paid at the time because of insufficient revenues under the five-cent fare. Subsequently, when the seven-cent fare became effective in Philadelphia, November 1, 1920, the 72½ cent wage scale was put into effect.

The peak of motormen's and conductors' wages was reached in the increases in Chicago, Cleveland, Detroit and Philadelphia in 1920. The cost of living reached its maximum in the summer of 1920. By May 1, 1921, as measured by the index compiled by the National Industrial Conference Board, it had fallen 19 per cent from the maximum and stood at 166, as compared with 100 representing the cost of living in 1914. Under the influence of the general downward trend of prices and the decrease in revenues resulting from the business depression coupled with high rates, street railway trainmen's wages have been coming down in connection with the readjustment of contracts in 1921. On April 15, 1921, the Cleveland trainmen's union voted 2,158 to 348 to accept a 20 per cent reduction in wages beginning May 1. The new Cleveland scale is 55 cents for the first three months of service, 58 cents for the next nine months and 60 cents after the first year. The men voted in favor of the wage cut, rather than go to arbitration with the issue of the "open shop" to be included as a question to be passed upon by the arbitrators, as proposed by the company. Later on, the same scale was also accepted by the employes of the Detroit United Railway effective as of May 1, 1921.

Another illustration of the recent wage changes is that of the motormen and conductors on the city lines of the Michigan United Railways Company, operating in Jackson, Kalamazoo, Lansing and Battle Creek. As a result of arbitration the wage scale was increased June 1, 1920, from 40 cents for the first year and 42 cents thereafter to 60 cents and 62 cents. When the year's contract expired in 1921 the men accepted a cut to 44 cents and 46 cents, with 5 cents additional for operators of one-man safety cars.

On May 1, 1921, the Philadelphia scale was reduced 7½ cents per hour as a result of decreases in Detroit and Cleveland. The Philadelphia scale for surface motormen and conductors is now 60 cents for the first three months, 63 cents for the next nine months and 65 cents thereafter. Beginning August 1, 1921, the wages of trainmen on the Public Service Railway lines in New Jersey will be 46 cents for the first three months, 48 cents for the next nine months, and 60 cents after the first year, with 5 cents per hour extra for operators of one-man cars.

NOTE 2 (*Page 6*). The "Proceedings" referred to here and elsewhere in the "Analysis" are the "Proceedings of the Federal Electric Railways Commission, held in Washington, D. C., during the months of July, August, September and October, 1919, together with Final Report of the Commission to the President," published in three volumes. The distribution of the "Proceedings" was undertaken by the American Electric Railway Association, 8 West 40th Street, New York City. The following announcement appeared in the Electric Railway Journal of April 23, 1921:

"Acting Secretary J. W. Welsh of the American Association has notified member companies that a limited supply of the complete proceedings of the Federal Electric Railways Commission report, bound in buckram, are available. As far as the supply will permit, the association will furnish without charge a complete set of the volumes to any city or college library, or to any city official designated by a member company. As the requests must come through the member companies and as the librarians may not know about the report, it devolves upon electric railway officials to take the initiative in seeing that their local college and public libraries are given an opportunity to secure these volumes."

In addition to the copies of the Proceedings purchased and distributed by the American Electric Railway Association, 500 copies were run off for the Government Printer and copies may be purchased from him.

CHAPTER III

NOTE 1 (*Page 11*). This is the printed "Argument and Brief," submitted on behalf of the Amalgamated Association of Street and Electric Railway Employees of America by W. Jett Lauck. For copies address Mr. Lauck, 712 Southern Building, Washington, D. C., or W. D. Mahon, International President of the Amalgamated Association, Detroit, Mich.

CHAPTER VI

NOTE 1 (*Page 29*). This report of the Committee on Public Service Securities was published in the I. B. A. of A. Bulletin of December 3, 1919, issued from the office of the Secretary of the Investment Bankers Association of America, 11 West Monroe Street, Chicago, Ill. On May 1, 1921, the Association had a membership of 541 main offices and 250 branch offices.

CHAPTER VII

NOTE 1 (*Page 32*). Public Utilities Reports, 1918E, page 910; Reports of the Board of Public Utility Commissioners of the State of New Jersey, Vol. VI, page 269.

CHAPTER IX

NOTE 1 (*Page 42*). After being still further revised, this exhibit was filed a third time with the Commission under date of December 3, 1919.

CHAPTER X

NOTE 1 (*Page 45*). See "Award and Findings of A. A. Stearns, J. R. Nutt, and W. E. Davis, Arbitrators, between the City of Cleveland and the Cleveland Railway Company on the question of increase in interest rate upon the capital stock of the company; together with brief in behalf of the company and ordinance of the city amending Ordinance No. 48845-A, as directed by award." December, 1919.

CHAPTER XI

NOTE 1 (*Page 53*). The report of Committee on Valuation of the American Electric Railway Association was approved by the Executive Committee of the Association, June, 1919, and ordered published. A full abstract of this report appeared in the Electric Railway Journal of August 2, 1919, Vol. 54, page 222. The report was presented at the Atlantic City convention of the Association, October 8, 1919. It was issued in pamphlet form from the office of the Secretary of the Association, 8 West 40th Street, New York City.

NOTE 2 (*Page 54*). In an article published in the Electric Railway Journal of May 7, 1921 (page 873), entitled "Depreciation in San Francisco," a table is given showing that the total amount of funds voted by the City of San Francisco for its municipal railways up to December 31, 1920, amounted to \$5,826,552.47. During the eight years of operation the municipal railway had received a total revenue (with the fare at 5 cents) of \$15,078,490.49. The operating expenditures during the same period had been \$9,561,758.63, and net earnings before deduction of taxes and depreciation, \$5,516,731.86. The net earnings had been distributed as follows:

Interest on outstanding bonds	\$1,642,322.03
Redemption of maturing bonds	899,300.00
Extensions and betterments	1,188,150.20
Depreciation	1,266,832.01
Compensation insurance	156,628.69
Materials and supplies	150,578.72
Advanced to Twin Peaks Tunnel	82,152.52
Accidents, damages, etc.	130,767.68
	<hr/>
	\$5,516,731.86

Another indication of what the electric railways could have done under the five-cent fare in pre-war times by way of accumulating depreciation and amortization funds, if the interests in control had been bent upon pursuing a conservative financial policy, is found in the experience of Cleveland under the Tayler service-at-cost ordinance during the eight years from 1910 to 1918. As a result of the adoption of the Tayler plan, street railway fares in Cleveland were reduced from 5 cents to 3 cents. The 3-cent fare, with some variations in transfer charges, continued in effect until December 26, 1917, and it was not until August 4, 1918, under war conditions, that the fare got back to 5 cents. In an address before the National Municipal League at its Indianapolis Convention in November, 1920, Judge Fielder Sanders, City Street Railroad Commissioner of Cleveland, said: "One tremendous result of this low fare in Cleveland not to be forgotten is the fact that its car riders in eight years between 1910

and 1918 have saved more than thirty million dollars, over and above what they would have paid if the fare had continued at 5 cents under the pre-existing private management as in other cities; or, in other words, they have saved for their own use an amount which, if it had been put in a sinking fund, would have purchased all of the railway company's property in September, 1918." (See *National Municipal Review* for February, 1921, special supplement on "Service at Cost.")

CHAPTER XII

NOTE 1 (*Page 59*). See Note 1, Chapter VII.

CHAPTER XIII

NOTE 1 (*Page 62*). On November 14, 1920—two years after the signing of the Armistice and more than one year after the close of the hearings of the Federal Electric Railways Commission—the Cleveland fare at last was forced up to the maximum permitted under the amended Talyer service-at-cost ordinance, viz.: 6 cents cash fare, 9 tickets for 50 cents, and 1 cent for transfer, with no rebate. See also Note 3, Chapter XXVII.

NOTE 2 (*Page 64*). Published as a document of the Commonwealth of Massachusetts. For copies address Commission of the Department of Public Utilities, 15 Ashburton Place, Boston, Mass.

NOTE 3 (*Page 66*). The members of the Committee on One-Man Car Operation were: C. W. Kellogg, of Stone & Webster, chairman; S. W. Greenland, of Fort Wayne and Northern Indiana Traction Company; J. K. Punderford, of the Connecticut Company; J. C. Thirlwall, of the General Electric Company; C. H. Beek, of the Westinghouse Traction Brake Company, and Clarence Renshaw, of the Westinghouse Electric and Manufacturing Company. The Committee's report was published in pamphlet form by the American Electric Railway Association, 8 West 40th Street, New York City.

NOTE 4 (*Page 66*). Henry Ford's promised gasoline street car has not yet materialized (June, 1921). The City of Detroit in constructing its municipal railway lines for electrical operation, however, has adopted a new type of track construction which is said to be much less expensive than the old type. It has had 25 safety cars in operation since February 1, 1921, and according to a statement issued by the Street Railway Commission, May 7, 1921, it has ordered 125 additional safety cars, to be delivered from June 20 to September 15 of the current year. It was also announced that cars of the Peter Witt type would be ordered for use on the heavy traffic lines.

CHAPTER XIV

NOTE 1 (*Page 69*). The members of this committee were P. H. Gadsden, E. K. Hall, and H. H. Crowell, representing the American Electric Railway Association, the National Electric Light Association, and the National Commercial Gas Association.

NOTE 2 (*Page 70*). Published by the author, Morris L. Cooke, 401 West Walnut Lane, Germantown, Philadelphia, Pa.

CHAPTER XV

NOTE 1 (*Page 77*). For changes in the Cleveland situation, see Note 1, Chapter XIII. At the present writing (June, 1921), the Interborough Rapid Transit Company is still on a 5-cent fare basis, and has thus far escaped a receivership. The Philadelphia Rapid Transit Company has been forced by the Pennsylvania Public Service Commis-

sion to abandon the 5-cent fare and charge 7 cents cash, with four tickets for 25 cents, in lieu of the abolition of transfers, which the company proposed. The Chicago Surface Lines have raised their fare to 8 cents upon authority of the Illinois Public Utilities Commission. The Capital Traction Company has also been put up to 8 cents cash fare, with four tickets for 30 cents, because the Public Utilities Commission of the District of Columbia decided that the less-profitable competing car line (the Washington Railway and Electric Company) needed this rate. The Union Street Railway Company of New Bedford has retained the 5-cent basic fare, and earned nearly 12 per cent on its capital stock in 1920. See *Electric Railway Journal*, June 11, 1921, page 1098. The fare on the Detroit United Railway city lines went up to 6 cents in 1920, but was reduced on June 19, 1921, to 5 cents cash, with a 1-cent transfer charge. Even in Indianapolis the 6-cent cash fare, with 20 tickets for \$1 and a 1-cent transfer charge, was put into effect beginning April 18, 1921. A few weeks later, in June, 1921, the 5-cent cash fare was restored, with a 2-cent transfer charge. In San Francisco both the private and the municipal lines have kept the 5-cent fare, but in Seattle under municipal operation the cash fare has gone up to 10 cents and the ticket fare to 8½ cents. The result in Seattle is partly due to the fact that the city bought the Stone & Webster properties at a high valuation, and undertook to pay for them out of the earnings within 20 years, besides meeting all the costs of operation, maintenance and depreciation. (See also Note 4, Chapter XLII). With the falling off of traffic, and a substantial drop in wages and material prices, the increase in street railway fares at the present time (June, 1921) seems to have been checked, and a tendency downward is now apparent.

CHAPTER XVI

NOTE 1 (*Page 79*). The entire series of tables and charts prepared by Mr. Welsh, including Chart C-122, referred to at this point in the text, have been reproduced in the Proceedings, Volume III, pages 2221 to 2252.

NOTE 2 (*Page 85*). The number of operating street railways in New York City listed by the Public Service Commission in its statistical reports for the fiscal year ended June 30, 1920, was 36. This included several lines operated by receivers and several lines which had only recently resumed independent operation as a result of cancellation of leases. The operation of one company's lines has since been undertaken by the city. The aggregate operating revenue of all the companies for the year was \$127,880,166.06. Taxes amounted to \$7,353,877.53, or 5.75 per cent of revenue.

CHAPTER XVII

NOTE 1 (*Page 91*). "Studies in the Cost of Urban Transportation Service," by F. W. Doolittle, Director, Bureau of Fare Research, American Electric Railway Association. Published by the Association, 8 West 40th Street, New York City.

CHAPTER XX

NOTE 1 (*Page 100*). The Special Street Railway Investigation Commission's work and report form one of the several interesting contributions of Massachusetts to the study of the street railway problem. The commission, created by the Massachusetts legislature, was composed of the following members: State Senators Joseph W. Martin, Jr., Charles W. Eldridge, and James L. Harrop; Representatives John M. Gibbs, George M. Worrall, George Bunting, Martin Hays, John L. Donovan, Michael J. Fitzgerald; and, as appointees of the Governor, W. Cameron Forbes and Gurdon W. Gordon. Among other things, the commission recommended the adoption of a service-at-cost plan

applicable to the street railways of the state. Two members of the commission—Messrs. Worrall and Bunting—presented dissenting reports in favor of public ownership, while Mr. Donovan in another dissenting report expressed himself in favor of the resumption by the legislature of the powers of control which had been delegated to the Public Service Commission. A general act carrying out the commission's recommendations with respect to service at cost was subsequently passed by the legislature in 1918; also special acts under which the Boston Elevated Railway and the Eastern Massachusetts Street Railway (the Bay State System) were taken over by the state for operation by boards of public trustees, on a service-at-cost basis. The Street Railway Investigating Commission's report was published as Massachusetts Senate Document 300, February 1, 1918.

NOTE 2 (*Page 102*). The City of Bridgeport endeavored by ordinance in 1920 to drive the jitneys out of the streets entirely. This measure, however, was declared invalid by the courts on July 22 of that year, and on August 2 the Connecticut Company ceased operation in Bridgeport, contending that it could not operate with the jitneys competing and uncontrolled. On September 7, the City Council passed a new ordinance outlining certain traffic routes to which the jitneys were restricted. The effect was to bar the jitneys entirely from the center of the city, leaving them the right to operate in the outlying sections only. As a result, the Connecticut Company, on September 20, 1920, resumed operations in Bridgeport.

By an act effective April 15, 1921, the State of Connecticut placed regulation of the jitneys in the hands of the State Public Utilities Commission. After July 15, 1921, any person desiring to operate a jitney must apply to the commission for a certificate and must satisfy the detailed requirements of the law. An applicant for a certificate must indicate the route over which he intends to operate and must show the necessity for operation over such route. The commission has power to establish such rules as it sees fit for the further regulation of the jitneys.

NOTE 3 (*Page 106*). Public Utilities Reports, 1920B, page 86.

NOTE 4 (*Page 106*). "Report of the Special Commission for the Investigation of the Affairs of the Rhode Island Company, made to the General Assembly of the State of Rhode Island, March, 1918."

CHAPTER XXI

NOTE 1 (*Page 113*). See Note 1, Chapter II, and Note 1, Chapter XLIII. Apparently street railway wages reached their peak in 1920. Since the beginning of 1921 marked reductions have taken place.

CHAPTER XXII

NOTE 1 (*Page 127*). "Street Railway Fares: Their Relation to Length of Haul and Cost of Service," by Dugald C. Jackson and David J. McGrath, McGraw-Hill Book Company, 239 West 39th Street, New York City. First edition, 1917.

CHAPTER XXIII

NOTE 1 (*Page 135*). The New York Evening Post (June 18, 1921) quotes New York City 3½ per cent bonds, due in 1954, at 70; 4 per cent bonds, due in 1959, at 80; 4¼ per cent bonds, due in 1960, at 82¼; 4½ per cent bonds, due in 1957, at 88 and 88¼.

NOTE 2 (*Page 130*). Upon cross-examination by Commissioner Sweet, Mr. Bertron further elaborated his ideas about municipal ownership. This additional testimony, not cited in the text of this report, is found at pages 549 to 552 of the Proceedings, as follows:

"Commissioner Sweet: You expressed a fairly favorable opinion of municipal ownership?"
 "Mr. Bertron: I personally think it will come to that in time."

"Commissioner Sweet: You think it will come to that?"

"Mr. Bertron: Yes; that is only a personal opinion.

"Commissioner Sweet: Do you base that on your idea of the situation as it is, especially with regard to public sentiment, etc., or upon what you regard as really the best for the public?"

"Mr. Bertron: Well, there is a general disposition on the part of any municipality to run their own property. They dislike having it owned and operated from a distance.

"Commissioner Sweet: Yes.

"Mr. Bertron: They would like to have it operated at home, very naturally. Well, it is not a far step from that, if you are going to operate at home, to work out a business plan for operating it, and they will not concede that someone else, living at a distance, has any better business judgment than they have for operating the company, and they know that they will be able to get the money cheaper, and hence should get the service cheaper. Therefore, the logic of the situation is, isn't it, that it should come to that in these distinctly local affairs?"

"Commissioner Sweet: Do you know of any objection on the part of chambers of commerce or of the communities generally to having foreign capital come in and invest in industries of other kinds—manufacturing, for instance?"

"Mr. Bertron: No; not so much that, but there is a distinct feeling in most municipalities that they would like to be their own doctors on their own municipal problems.

"Commissioner Sweet: Don't you think there is, and ought to be, a distinction between water supplies and street railways in regard to ownership by the city?"

"Mr. Bertron: Somewhat.

"Mr. Warren: What is your answer, Mr. Bertron?"

"Commissioner Sweet: Somewhat.

"Mr. Bertron: Somewhat.

"Mr. Warren: Somewhat?"

"Mr. Bertron: There is not much danger of the water company being utilized politically, less than with the street railway, on account of the number of employes, and all that

"Commissioner Sweet: The water supply is somewhat of a natural monopoly, is it not?"

"Mr. Bertron: Yes.

"Commissioner Sweet: There is a disadvantage to the municipality in having more than one water supply, ordinarily?"

"Mr. Bertron: The same is true with the street railway. It is a natural monopoly.

"Commissioner Sweet: A natural monopoly?"

"Mr. Bertron: Yes; and recognized as such.

"Commissioner Sweet: Is not the same thing true of telephone companies?"

"Mr. Bertron: Well, that is not local so much. You have telephone systems that are a part of great trunk lines running all over the country.

"Commissioner Sweet: Don't you think it is a nuisance in a community to have more than one company operating there?"

"Mr. Bertron: Oh, unquestionably.

"Commissioner Sweet: If the street railway company is a natural monopoly in the same sense that the water supply is a natural monopoly, why did you make a distinction between the two with regard to municipal ownership?"

"Mr. Bertron: The point I made was that there would be more objection, probably, on the part of citizens to a municipally owned street railway than to a water company, fearing lest they might not have as good business management. It is a little more complicated problem. They have engineers on the outside and various other things. They have to keep in touch with operations in other cities and other developments that take place.

"Commissioner Sweet: Yes.

"Mr. Bertron: And then, too, a great many people think it would be a mistake to have such a large body of men who are employed upon street railways subject to political influence of various parties.

"Commissioner Sweet: Don't you think that would be a serious objection?"

"Mr. Bertron: I think it can be overcome. I think the street railways can be taken out of politics, just as much as the water companies, and made an economic business proposition in the municipality. I think it quite possible to do it.

"Commissioner Sweet: You are rather optimistic with regard to city government, are you not, then?"

"Mr. Bertron: Well, I think we are on the up-grade. I am a great believer in the honesty of the American people, when they know the facts.

"Commissioner Sweet: Do you think the introduction of the commission form of city government has helped materially in the quality and character of those governments?"

"Mr. Bertron: That depends upon the locality. It has in some, and it has not in others.

"Commissioner Sweet: Do you think at the present time there is a greater freedom from bribery and dishonesty than there was 25 years ago?"

"Mr. Bertron: I do, very much, and I think that when this great body of young men

that we are demobilizing from the military service, are disseminated throughout the country, men who have had discipline, who have had patriotism, and who have had experience, I think they are going to be more public spirited, and I look for a distinct improvement in our whole civic morale as a result of what these young men have gone through.

"Commissioner Sweet: Do you think the management under municipal ownership and operation would be as efficient as under private ownership?"

"Mr. Bertron: It can be made so.

"Commissioner Sweet: Would it be likely to be?"

"Mr. Bertron: Well, it can be made so. Now, whether it would, would depend entirely on how it is handled. There are cities in which they could provide in the arrangement that you have, say, two members of the chambers of commerce on the board, a member of the merchants' association, and two men representing labor, etc., and take it out of politics, and run it as a business enterprise. It can be done, and I think the people will welcome it.

"Commissioner Sweet: Do you think they would have the feeling that it was their own business?"

"Mr. Bertron: And they would take a pride in it.

"Commissioner Sweet: And you think it would so develop that they would acquiesce in changes of fares with less skepticism?"

"Mr. Bertron: Oh, infinitely less.

"Commissioner Sweet: At the same time, Mr. Bertron, don't you know that up to date, where municipal ownership has been tried, it has not been as efficient as private ownership?"

"Mr. Bertron: Rarely.

"Commissioner Sweet: What?"

"Mr. Bertron: Very rarely.

"Commissioner Sweet: Well, as a rule, it has not been?"

"Mr. Bertron: Yes; as a rule it has not been.

"Commissioner Sweet: Don't you think your discounting the future on that line is conservative for a banker, in assuming the conditions are going to be better in the hereafter than they have been in the past—materially better in that regard?"

"Mr. Bertron: I think it will come.

"Commissioner Sweet: Former President Taft, when he appeared before us, expressed the opinion that, under the present situation of the street railway companies, they would come to municipal ownership.

"Mr. Bertron: Not necessarily.

"Commissioner Sweet: If relief were not given to the companies in some way.

"Mr. Bertron: Oh, well.

"Commissioner Sweet: He said he thought it would be an unfortunate thing to have to adopt municipal ownership.

"Mr. Bertron: Unless it was properly safeguarded and removed from politics, yes.

"Commissioner Sweet: Well, that is the problem, but you can't remove anything that is under the control of elected officials from politics. A man who is elected to office, the mayor of a city or an alderman, or whatever the office may be, if he wants re-election, as most officials do, is bound to consider the methods by which that may be attained, if he is an ordinary, everyday human being.

"Mr. Bertron: He thinks so, but he makes a big mistake. I think the people would much rather vote for a man who was brave enough to stand up for something—

"Commissioner Sweet: That is very true.

"Mr. Bertron: (continuing)—than a man who would attempt to adjust himself to what he thought were their wishes.

"Commissioner Sweet: But those are his purposes, and those are his morals. That is almost invariably the case. He wants at least one re-election as a sort of endorsement. Now, according to his breadth, according to his vision, will be the course that he will take, and I think you will agree with me that a very large proportion of officials are rather narrow, not altogether wise, and instead of taking a broader view and doing what is right and depending upon that for public endorsement in re-election, they indulge in what we call petty politics and seek to get votes here and there by cultivating the good will of this one or the other; is not that true?"

"Mr. Bertron: Very frequently.

"Commissioner Sweet: At least it has been true in the past?"

"Mr. Bertron: Very frequently.

"Commissioner Sweet: And you are looking now for a broader knowledge and a bigger lot of public officials, those who will not be controlled by such narrow methods?"

"Mr. Bertron: In the organization, the removal of the staff from political atmosphere entirely. I think that can be done.

"Commissioner Sweet: One question more on this point: Do you think the same man serving as an elected official or serving at the head of a street railway company as an appointee of an elected official, would do as good work, would be as efficient as he would if he were employed by a private corporation?"

"Mr. Bertron: He should be.

"Commissioner Sweet: I am not asking what he should be, but do you think he would be?

"Mr. Bertron: Well, I think he would have as much or even more civic pride in doing well for his community than he would for a corporation. It would depend on the man, largely.

Please don't misunderstand me about advocating municipal ownership of these properties. I think it is better not at this time. I think we can work out a plan, as I said, an automatic adjustment on a fair valuation, to give a fair return, and that is the way it should be handled; but I said, ultimately, I think it will come to the other thing, because it is the rational thing, and the cheaper thing.

"Commissioner Sweet: When you say 'rational,' you mean in theory it should be a better thing?

"Mr. Bertron: Yes.

"Commissioner Sweet: But, in practice, I do not understand you to say that now, at the present time, you consider that it is the better thing?

"Mr. Bertron: I prefer to see the other adopted first."

CHAPTER XXV

NOTE 1 (*Page 150*). The Annals of the American Academy of Political and Social Science, January, 1915, Volume LVII, Whole No. 146, "Public Policies as to Municipal Utilities." The article referred to in the text is entitled "Fundamental Planks in a Public Utility Program," and appears at page 8 of the volume.

CHAPTER XXVII

NOTE 1 (*Page 160*). See Note 1, Chapter XV. Since February, 1920, many of the important cities which then retained the five-cent fare have had fare increases, including Philadelphia, Cleveland, Buffalo, Los Angeles, Minneapolis, St. Paul, Rochester, Louisville, and others. However, the tide seems to be turning, and the movement looking to the restoration of the 5-cent fare is noticeable in certain places.

NOTE 2 (*Page 161*). Since the text was written, some readjustment of fares, up or down, has taken place in a number of these cities. The Public Trustees of the Boston Elevated Railway have experimented with a 5-cent fare on certain lines. In their report to the Massachusetts legislature in April, 1921, they stated that eight of such lines had been established, with the 5-cent fare restricted to certain hours and to days other than holidays and Sundays. Five proved failures and had been discontinued, but three were still in operation at that time.

It is also noteworthy that, following a 12½ per cent reduction in wages on the lines of the Eastern Massachusetts Street Railway Company, as a result of arbitration, the Board of Public Trustees on May 23, 1921, put into effect a series of fare reductions in the form of reduced ticket rates. These reductions affected the street railway lines in Lowell, Lawrence, Lynn, Haverhill, Brockton, and other cities of eastern Massachusetts.

In New Jersey the Public Service Railway Company endeavored to put into effect the 10-cent fare at the beginning of 1921, but the new rate was suspended by the Board of Public Utility Commissioners. Later on, in May, 1921, after public hearings, the company's application for the 10-cent fare was denied by the board, and in July the permanent fare was fixed at 7 cents with a 2-cent charge for transfers.

NOTE 3 (*Page 164*). Following the wage increase of May 1, 1920, the Cleveland "interest fund" was gradually depleted until on November 14, 1920, it was found necessary to put the fare up to the maximum allowed under the Taylor franchise, viz., 6 cents cash and 9 tickets for 50 cents, with a penny for a transfer. On account of a considerable decrease in traffic, due in part to the industrial depression in Cleveland, the maximum fare proved insufficient to cover the entire cost of service, and at the end of February, 1921, the "interest fund," originally established at \$500,000, was entirely wiped out and replaced by a deficit of \$53,425. Under normal conditions this fund acts as a

fare barometer. When it rises to \$700,000, the fare goes down. When it sinks to \$300,000, the fare goes up. In this case, the maximum fare allowed under the franchise having failed to provide the full cost of service, the Tayler plan appeared to be on the verge of breaking down. Neither the city nor the company desired the fare to go above six cents. The only other solution apparent lay in a reduction of operating expenses. The decrease in traffic permitted some decrease in the amount of service given, and a cut in salaries and wages other than those of the platform employes had the effect of improving the company's condition. The month of March showed a reduction in the deficit in the interest fund from \$53,425 to \$12,090. It is expected that the 20 per cent reduction in trainmen's wages, effective May 1, 1921, by saving the company about \$100,000 a month, will restore the interest fund and ultimately make a reduction in fares again possible.

The maximum fare permitted under the Dallas franchise of 1917 was 5 cents. But in June, 1920, permission was given the company to increase the fare to 6 cents for the period of one year. Later on, the company asked for an increase to 7 cents, but got the 6-cent fare for another year. In Youngstown the fare went up to 9 cents before the end of 1920, and in Cincinnati to 9 cents cash, with 2 tickets for 17 cents.

CHAPTER XXVIII

NOTE 1 (*Page 178*). See pages 1504 and 2200 of the Proceedings; also page 110 of "Argument and Brief" submitted to the Commission on behalf of the Committee of One Hundred acting for the American Electric Railway Association, November 22, 1919.

NOTE 2 (*Page 195*). On April 5, 1920, the electors of Detroit authorized a \$15,000,000 bond issue for the construction of an independent municipal street railway system. Immediately thereafter, construction of the new lines was undertaken by the Detroit Street Railway Commission, and on February 1, 1921, the first section of the system was placed in operation.

NOTE 3 (*Page 106*). During the calendar year 1919 the Boston Elevated Railway deficit under the service-at-cost plan was \$2,366,495 with the 10-cent fare in effect after July 10. During the year 1920 the deficit was only \$346,952.

NOTE 4 (*Page 216*). After an increase in trainmen's wages, the fares of the Montreal Tramways Company were increased September 1, 1920, to the following schedule: Cash fare 7 cents, with four tickets for 25 cents or fifty tickets for \$3. During the period from February 10, 1918, when the service-at-cost contract went into effect, until June 30, 1920, a deficit of \$1,728,811.94 was accumulated, of which \$364,700.20 was attributable to the 12 months ended June 30, 1920. See "Second Annual Report of the Montreal Tramways Commission to the City of Montreal, 1919-1920." On account of this deficit, the company had been unable to pay to the City of Montreal the sum of \$500,000 per annum as rental for the use of the streets.

NOTE 5 (*Page 217*). At the present writing (June, 1921) negotiations are under way for the purchase of the Toronto Railway Company's lines by the City of Toronto on September 1, 1921. This purchase will result in the consolidation of the local street railway lines of Toronto under municipal ownership and operation. The price to be paid for the private company's lines will be fixed by a Board of Arbitrators, consisting of Sir Adam Beck for the city, Sir Thomas White for the company, with the chairman still to be selected.

CHAPTER XXIX

NOTE 1 (*Page 223*). The Milwaukee fare schedule was again modified on June 24, 1920, by an order of the Wisconsin Railroad Commission which is still in effect

(June, 1921). Under this order the 7-cent cash fare in the single-fare area was continued, but the ticket rate was increased to 8 tickets for 50 cents. In the suburban area the rate of 3 cents cash per zone, with 25 tickets for 50 cents, was continued.

NOTE 2 (*Page 224*). The average length of the Providence zones as stated in the text is air line measurement. The average track mileage in the central 2-mile zone is about 2.4 miles; in the 1.75 mile zone, about 2 miles, and in the succeeding 1.5 mile zones about 1.7 miles. This zone plan, with the fares established in September, 1919, is still in effect (June, 1921). Operating statistics of the last two months of 1919 show an increase of 5.65 per cent in the number of revenue passengers carried and an increase of 24.55 per cent in the passenger revenue as compared with the corresponding period of the preceding year. For the full year 1920 the increase in the number of revenue passengers was 4.91 per cent and in passenger revenue 20.42 per cent. The first four months of 1921 showed a decrease of 1 per cent in the number of revenue passengers carried, and of 0.91 per cent in the passenger revenue. These figures were furnished by A. E. Potter, General Manager, in a letter dated May 24, 1921. Their chief significance is in the fact that the zone fares produced a substantial increase in passenger revenue and that the system is still in effect (June, 1921). The increases for revenue passengers are not entirely reliable for comparative purposes, since the method of counting the passengers changed more than once with the changes in the fare system prior to September 28, 1919.

NOTE 3 (*Page 226*). A brief description of the ticket rates put in force on May 23, 1921, by the Board of Public Trustees of the Eastern Massachusetts Street Railway will be found in the *Electric Railway Journal* of June 4, 1921, at page 1057.

NOTE 4 (*Page 227*). The zone system and rates described in the text are still in effect in Springfield, Mass. (June, 1921). Under this plan the Springfield Street Railway Company has enjoyed a substantial increase in operating revenue, as will be seen from the fact that for the calendar year 1920 its revenue was \$3,805,563.94, as compared with \$2,495,234.98 for the calendar year 1917.

NOTE 5 (*Page 229*). On August 1, 1920, the rates in Portland, Me., were further increased to 10 cents cash and 8 cents ticket fare.

NOTE 6 (*Page 234*). On August 8, 1920, a new rate schedule was put in effect in Connecticut with 7 cents cash fare for the initial zone. An outer zone about 2 miles long was created, in which the fare was 6 cents. The suburban fare became 6 cents for 2-mile zones.

"This presented difficulties in two ways," writes President Storrs of the Connecticut Company in the *Electric Railway Journal* of January 1, 1921; "it neither provided the necessary revenue nor was satisfactory to the public." He then continues: "Finally, on November 1, 1920, a return was made to the old 5-cent areas, with a 10-cent fare and commutation ticket under same conditions as before at 2½ cents per mile. Its effect cannot yet be correctly analyzed, for it has been in effect but two months, months that have suffered from the general industrial depression. It is only fair to state, however, that from the standpoint of company revenue this system seems to be proving satisfactory. As compared with corresponding periods of previous years, the increase in fare has not proved so objectionable to the public as might have been anticipated, for the number of passengers carried has decreased but slightly. Estimates in Connecticut are complicated by the jitney problem."

CHAPTER XXXI

NOTE 1 (*Page 272*). See Note 3, Chapter XIII.

CHAPTER XXXIV

NOTE 1 (*Page 311*). Operation of the first section of the Detroit independent municipal railway lines commenced February 1, 1921. The operating deficit for the month of February was \$2,928.78, and for the month of March, \$3,829.78. A portion of this deficit was accounted for by the fact that the Municipal Railway Department was charged \$2,250 per month by the Detroit Edison Company for the reservation of machines in one of the Detroit Edison Company's substations. The municipal lines used only a small percentage of the maximum power output of the machines reserved. It is expected that the ratio of operating expenses to operating revenue will decrease as the service is extended. Under the Detroit charter the Street Railway Commission is obliged to make the municipal street railway system a self-sustaining one as soon as practicable. At the election held April 4, 1921, the voters of Detroit approved the extension of the Municipal Railway by the purchase of portions of the Detroit United Railway lines built under day-to-day agreements, by a vote of 96,308 to 47,717, and at the same time rejected a 30-year service-at-cost franchise proposed by the company, by a vote of 91,490 to 53,302.

NOTE 2 (*Page 311*). "Report of Street Railway Commission appointed under Chapter 359 of the General Acts of 1919 to make an Investigation and Study of the Street Railways of the Commonwealth." The members of the commission were: From the Senate: James F. Cavanagh, Leonard F. Hardy, John J. Walsh. From the House: Wm. A. Kneeland, Benjamin Loring Young, Frank G. Allen, David J. Maloney, Wm. H. McDonnell. Appointed by the Governor: Chas. G. Washburn, Roland W. Boyden, David A. Belden, Charles S. Ashley, Charles Giddings.

NOTE 3 (*Page 314*). The subsidy policy as applied to street railways seems not to have made much progress in Massachusetts since 1919. In New York, the 1921 legislature, acting upon Governor Miller's recommendation, passed an act establishing a state-appointed transit commission for New York City. (Chapter 134, Laws of 1921.) One of the declared purposes of this act is the adoption of a plan of readjustment for the relief of the transit emergency declared to exist, which shall contain provisions to bring about "the receipt by the city of sufficient returns from the operation of the railroads so that the corporate stock or bonds issued by the city for the construction of rapid transit railroads may be exempted in computing the debt-incurring power of the city under the constitution of the state." The obvious meaning of this declaration is that the rapid transit subways must be made self-sustaining, and this policy is to be given effect even if it requires the abandonment of the 5-cent fare, which has hitherto been heavily subsidized by the City of New York under the "dual" subway contracts of 1913.

It is noteworthy also that the general municipal ownership law of Illinois, enacted in 1913, expressly provides that the charges fixed by a municipality for any public utility service which it may render "shall be high enough to produce a revenue sufficient to bear all cost of maintenance and operation and to meet interest charges on bonds and certificates issued on account thereof and to permit the accumulation of a surplus or sinking fund that shall be sufficient to meet all the outstanding bonds or certificates at maturity."

NOTE 4 (*Page 320*). The bill referred to in the text was known as the "Jenks" bill. It was defeated in the legislature at the 1920 session, but a year later, under Governor Miller's leadership, the legislation mentioned in the preceding note was enacted. See also Note 3, Chapter XI, and text pages 463 and 464.

CHAPTER XXXVI

NOTE 1 (*Page 327*). According to a report compiled by the American Electric Railway Association, sixteen additional companies went into receivers' hands during

the calendar year 1920, as compared with forty-eight during the preceding year. The most important companies in the 1920 list were the Denver Tramways Company and the Kansas City (Mo.) Railways.

NOTE 2 (*Page 334*). Public Utilities Reports, 1919B, page 152; also pamphlet published by the Public Service Commission of Indiana, Case No. 3505: "In Re Petition of Indianapolis Traction and Terminal Company for Authority to Make Changes in Fares to be Charged on the Street Railways in the City of Indianapolis."

CHAPTER XXXVIII

NOTE 1 (*Page 348*). Under state commission control, valuation is used chiefly as a basis for rate-making; but in connection with service-at-cost plans, the capital value established by agreement is generally used as a basis not only for rate adjustments but also for possible future purchase by the municipality.

NOTE 2 (*Page 371*). Public Utilities Reports, 1920C, page 458.

NOTE 3 (*Page 373*). "Second Annual Report of the Public Service Commission," Massachusetts, 1914, Vol. I, page 99.

NOTE 4 (*Page 374*). Bay State Rate Case: "Fourth Annual Report of the Public Service Commission," Massachusetts, 1916, part 1, page 1; Public Utilities Reports, 1916F, page 221.

NOTE 5 (*Page 376*). "An Act to amend an Act entitled 'An Act to regulate carriers,' approved February 4, 1887, and all acts amendatory thereof by providing for physical valuation of the property of the carriers subject thereto and securing information concerning their stocks and bonds and boards of directors," March 1, 1913, Section 19a of the Interstate Commerce Commission law.

NOTE 6 (*Page 376*). Valuation Reports of the Interstate Commerce Commission, Valuation Docket No. 2, Texas Midland Railroad.

NOTE 7 (*Page 380*). *Smyth vs. Ames*, 169 U. S. 466 (March 7, 1898).

NOTE 8 (*Page 382*). Nebraska Rate Case: *Smyth vs. Ames*.

NOTE 9 (*Page 382*). Minnesota Rate Cases: *Simpson vs. Shepard*, 230 U. S. 352 (June 9, 1913).

NOTE 10 (*Page 382*). *Kings County Lighting Co. vs. Willcox*, 156 App. Div. 603; 210 N. Y. 479. *Des Moines Gas Co. vs. City of Des Moines*, 238 U. S. 113.

CHAPTER XXXIX

NOTE 1 (*Page 386*). *Lincoln Gas and Electric Co. vs. City of Lincoln*, 250 U. S. 255 (June 2, 1919).

NOTE 2 (*Page 387*). Passaic Gas Case: *Public Service Gas Co. vs. Board of Public Utility Commissioners (N. J.)*, 85 N. J. 63 (July 7, 1913).

NOTE 3 (*Page 392*). Pursuant to the recommendation of the Board of Arbitration, the City Council of Cleveland passed an ordinance amending the Tayler franchise by increasing the rate of interest on the Cleveland Railway Company's stock from 6 per cent to 7 per cent. On April 1, 1920, the company paid one quarterly dividend at the 7 per cent rate. Thereafter, on August 10, 1920, the ordinance amending the franchise, upon referendum, was defeated and the company was compelled to go back to 6 per cent dividends. See also Note 2, Chapter XLI.

NOTE 4 (*Page 395*). *City of Milwaukee vs. Milwaukee Electric Railway and Light Co.*, Wisconsin Railroad Commission Reports, Vol. 10, page 1.

CHAPTER XL

NOTE 1 (*Page 413*). By Chapter 278 of the Laws of 1921, in effect April 14, 1921, entitled "An Act relating to Street Railways," the Minnesota legislature conferred upon the Railroad and Warehouse Commission (a state body) exclusive initial jurisdiction over street railway rates. By this act, cities were given the authority to acquire street railway properties by eminent domain, by purchase through agreement or by purchase at the fair value to be determined by the commission. Cities were also given authority to operate street railways owned by them or to lease or resell them. Exclusive authority for granting franchises was vested in the city government, with the proviso that no lease, permit or franchise to operate a street railway in any city where a street railway is already operating may be granted by the city council unless a certificate of convenience and necessity is first obtained from the state commission. Every street railway franchise becomes an indeterminate permit at the option of the company under this act.

NOTE 2 (*Page 413*). The State Public Utilities Commission law of Illinois went into effect January 1, 1914. Ever since then a struggle has been going on to get the act repealed or amended in the interest of municipal home rule. After the commission had revoked the 5-cent fare provisions of the Chicago street railway settlement ordinances, the question of the form of utility regulation became a state-wide political issue, and in 1920 a Governor was elected, with the support of Mayor Thompson of Chicago, pledged to reorganize the commission and to change the law so as to restore municipal control of local utilities. The old commission was duly thrown out of office, and the legislature at its 1921 session passed a new utilities law containing partial provision for home rule.

NOTE 3 (*Page 413*). See Note 3, Chapter XXIV. The New York legislature, by Chapter 134 of the Laws of 1921, not only established a special Transit Commission for New York City, but revised generally the public service commission law and imposed upon the new Public Service Commission and the Transit Commission the duty of determining and fixing "just and reasonable rates, fares and charges" as the maximum to be charged for the service performed, "notwithstanding that a higher or lower rate, fare or charge has been heretofore prescribed by general or special statute, contract, grant, franchise condition, consent or other agreement." Thus it appears that the state legislature has gone as far as it can to confer upon the commissions authority to increase street railway fares in New York City and other cities of the state, regardless of local franchise conditions.

NOTE 4 (*Page 417*). In 1919 the original Public Service Commission for the First District (New York City), composed of five members, was replaced by a single Commissioner with three deputies. By Chapter 134 of the Laws of 1921 the five-headed up-state commission and the single-headed first district commission were abolished, and in their place a single Public Service Commission of five members was established, with state-wide jurisdiction over regulated utilities other than the transit lines of New York City. This act also established a Transit Commission of three members for New York City. The members of both commissions receive salaries of \$15,000 per annum. The term of office of the public service commissioners is fixed at 10 years, the term of one member expiring every second year. Members of this commission may be removed only by resolution concurred in by two-thirds of the members elected to each house of the legislature. The members of the Transit Commission are appointed by the Governor for a term of five years and may be removed by him upon charges of inefficiency, neglect of duty or misconduct in office.

NOTE 5 (*Page 421*). At the present writing (June, 1921) San Francisco still retains a 5-cent cash fare on both the municipal and the privately owned lines. In Los Angeles a 6-cent cash fare has just been established, but the 5-cent rate is preserved through the sale of ten tickets for 50 cents. San Diego is now divided into two 5-cent fare zones. Oakland and other East Bay cities went to the 6-cent fare in 1918.

NOTE 6 (*Page 426*). Toledo joined the ranks of the service-at-cost cities by vote of the electors on November 2, 1920. The so-called Milner service-at-cost plan was approved by a vote of 45,990 to 18,029, while at the same time two municipal ownership proposals were defeated—one by a vote of 16,469 in favor and 46,369 against and the other by a vote of 17,770 in favor and 43,125 against. The Toledo service-at-cost plan provides for the automatic achievement of ultimate municipal ownership through the gradual amortization of the capital value, which was fixed in the Milner ordinance at \$8,000,000. The new ordinance went into effect February 1, 1921, after the transfer of the properties of the Toledo Railways and Light Company to the Community Traction Company, which had been organized by the owners of the property to receive the new franchise and operate under the new plan. For some time previous to this date the Toledo fare had been 7 cents with a 2-cent transfer charge. When the service-at-cost plan went into effect the initial rate provided for in section 27 of the Milner ordinance, viz., 6 cents cash fare with 5 tickets for 30 cents and 1 cent transfer charge, was established. Under the ordinance this fare schedule must continue in force six months. Thereafter, the fare is to be increased or decreased according to the condition of the "stabilizing fund." After four months' operation, at the end of May, a deficit of \$260,672 had accrued and it was expected that the fare would have to be increased to 7 cents in August. However, attention is called to the fact that the trainmen in June, 1921, accepted a wage agreement providing for a reduction of 10 cents per hour as compared with last year's wage scale. Street Railway Commissioner Wilfred E. Cann is reported as stating that in his opinion the reduced cost of labor and expected operating economies will bring back a 5-cent fare in Toledo within a year.

CHAPTER XLI

NOTE 1 (*Page 435*). Recent additions to the list of service-at-cost cities are Memphis, Rochester and Toledo. The Memphis plan was put into effect April 1, 1920, by the Tennessee Railroad and Public Utilities Commission as a part of its scheme of state regulation. In Rochester a service-at-cost agreement, effective August 1, 1920, was entered into by the city and the New York State Railways for a period of 10 years. As stated in Note 6, Chapter XL, the Milner service-at-cost plan became effective in Toledo February 1, 1921. Since the report of the Federal Electric Railways Commission was issued, in August, 1920, service at cost has been under consideration in a great many places, but the number of cities actually adopting it continues to be small.

NOTE 2 (*Page 441*). At the referendum election, August 10, 1920, the ordinance increasing the rate of return on the Cleveland Railway stock from 6 per cent to 7 per cent, as recommended by the majority of the board of arbitrators, was defeated by a vote of 10,660 in favor to 35,964 against. See also Note 3, Chapter XXXIX.

NOTE 3 (*Page 445*). On November 14, 1920, the Cleveland fare went up to 6 cents cash with 9 tickets for 50 cents and 1 cent for a transfer, the maximum permitted under the Tayler service-at-cost ordinance as amended. See also Note 1, Chapter XIII, and Note 3, Chapter XXVII.

NOTE 4 (*Page 476*). "An act to provide for service at cost by street railway companies," Chapter 280 of the Laws of 1918 (Massachusetts), approved May 31, 1918.

NOTE 5 (*Page 487*). The Cincinnati service-at-cost plan has not been working

smoothly. Both the city and the company appear to have realized that the fares have gone too high. In June, 1921, an amending ordinance was passed to provide for a reduction in the cost of passenger service by the suspension of certain payments and accruals specified in the original ordinance. It was announced that a reduction in fares might be expected August 1, 1921, and a further reduction on November 1, 1921, but later on this ordinance was suspended by referendum petitions. On May 1, 1921, William C. Culkins, the first Director of Street Railways under the Cincinnati ordinance, retired to become Secretary of the local Chamber of Commerce.

NOTE 6 (*Page 490*). The corporation counsel of Indianapolis, the attorney for the local street railway company and the chairman of the Indiana Public Service Commission made a joint investigation of service at cost and were unable to learn that the problem of incentive has anywhere been solved satisfactorily under this plan. As a result of this investigation, the plan originally suggested by the city of Indianapolis in May, 1920, was withdrawn several months later with the permission of the Public Service Commission. For a discussion of the matter, see paper entitled "Service at Cost—Panacea or Nostrum," by E. I. Lewis, read before the Indianapolis conference of the National Municipal League in November, 1920, and published in the "Service at Cost" supplement of the National Municipal Review for February, 1921. At the time, Mr. Lewis was chairman of the Indiana Public Service Commission. He has since been appointed to the Interstate Commerce Commission.

NOTE 7 (*Page 491*). "The Cost of Urban Transportation Service," by F. W. Doolittle, Chapters XXII to XXVI.

NOTE 8 (*Page 501*). Since the text was written, the City of Detroit on April 4, 1921, directly rejected service at cost by a decisive vote. See Note 1, Chapter XXXIV.

CHAPTER XLII

NOTE 1 (*Page 500*). The American Electric Railway Association brief is printed at pages 2149 to 2215 of the Proceedings.

NOTE 2 (*Page 510*). See Remington and Ballinger's Code, State of Washington, Sections 8005, 8006, 8007, and 8008. This law originated in Chapter 150 of the Laws of Washington, 1909, page 605, entitled "An Act authorizing cities and towns to construct, condemn and purchase, purchase, acquire, add to, maintain, conduct and operate certain public utilities, providing for modes of payment therefor, repealing all acts in conflict herewith, and declaring an emergency."

NOTE 3 (*Page 510*). *Twichell vs. City of Seattle and Puget Sound Traction, Light and Power Co.*, 106 Wash. 32.

NOTE 4 (*Page 521*). In 1920 Seattle found it necessary to abandon the 5-cent fare in order to make provision for a depreciation reserve, and for the amortization of the purchase price of the property, as required under the state laws and the city's contract ordinances. In the summer of 1920 the fare was put up to 10 cents cash, with a ticket rate of 6¼ cents. Later on, the ticket rate was further increased to 8¼ cents. Meanwhile, Councilman Oliver T. Erickson, for many years the leading official advocate of municipal ownership and operation in Seattle, has started a movement for an amendment to the city charter to reduce the car fare to 3 cents and make up any resulting deficiency out of the general fund. Mr. Erickson, in a public statement issued in November, 1920, said:

"Cheap transportation is the life-blood of the city. Increasing carfares is injurious to all who have any useful occupation. I believe in reducing and ultimately abolishing them."

Mr. Erickson strongly opposed the purchase of the Puget Sound Traction lines by the city in 1919 for \$15,000,000, believing that the purchase price was grossly excessive.

The deal was put through, however, by Mayor Ole Hanson and the majority of the City Council. As an aftermath to the discovery that fares would have to be increased radically to enable the municipal street railway system to meet its obligations, the City Council, on June 7, 1920, authorized the mayor to make a special investigation of the facts relating to the purchasing of the Puget Sound lines from Stone & Webster. Pursuant to this authority, Mayor Caldwell, in August, 1920, selected William Tucker, Esq., to conduct the investigation, and six months later received his report. Mr. Tucker had secured the services of an experienced appraisal engineer, Mr. Cyrus A. Whipple, who reached the conclusion that the value of the property at the date of purchase did not exceed \$7,843,000, instead of the \$15,000,000 paid to Stone & Webster.

This Seattle experience illustrates the danger to municipal ownership in the purchase of old properties at the valuation claimed for them by their owners.

The Seattle street railway situation was discussed in an illuminating way by Professor Paul H. Douglas, of the University of Chicago, formerly of Seattle, in an address before the City Club of Chicago, April 28, 1921, entitled "An Experiment in Municipally Owned Traction: Seattle." Professor Douglas' address appears in the June issue of the *Journal of Political Economy*, published at the University of Chicago.

CHAPTER XLIII

NOTE 1 (*Page 530*). The tabulation given on pages 766 and 767 shows the conductors' wage scale in each city and local as of January 1, 1921, for comparison with the tabulation given in the text.

NOTE 2 (*Page 534*). The labor disturbances in the electric railway field during 1920 and the first half of 1921 were fewer than might have been expected. Disastrous strikes, involving violence, occurred on the Denver Tramway lines, the Brooklyn Rapid Transit lines and the United Traction lines in Albany, Troy and the neighboring towns. During 1920 the companies generally yielded to the demands of the employes for higher wages, while on the other hand, during the first half of 1921, with the cost of living on the down-grade and the labor supply plentiful, the men have in numerous cases accepted considerable decreases in wages.

NOTE 3 (*Page 534*). The wage booklet of the Amalgamated Association issued January 1, 1921, shows a further increase of 47 in the number of locals, the total on that date being 375. While this would seem to indicate a continued growth in the influence of the Amalgamated, it is not certain what the effect will be of the present industrial depression and the general "open shop" campaign now being carried on. In Albany and Troy, for example, local divisions 148 and 132 have been fighting for their lives during the entire first half of 1921.

CHAPTER XLVI

NOTE 1 (*Page 579*). B. Seebohm Rountree, "The Human Needs of Labour," London, 1918.

NOTE 2 (*Page 570*). "The Monthly Review of Credit and Business Conditions in the Second Federal Reserve District" (published by the Federal Reserve agent, the Federal Reserve Bank of New York), issue of July 1, 1921, shows that the cost-of-living index for the United States, compiled by the National Industrial Conference Board, stood on June 1, 1921, at 161.9, as compared with 100 for the pre-war level. This showed a decline of only 20.8 per cent from the maximum. Wholesale prices, as measured by the United States Department of Labor index, stood at 151 for May, showing a decline of 44 per cent from the high point.

HOURLY WAGE RATES (CENTS) OF CONDUCTORS AFFILIATED WITH THE AMALGAMATED ASSOCIATION OF STREET AND ELECTRIC RAILWAY EMPLOYEES IN PRINCIPAL CITIES OF UNITED STATES AND CANADA AS OF JANUARY 1, 1921

CITY IN UNITED STATES	Number of local	First 3 months	Second 3 months	Second 6 months	Second year		Third year	Fourth year	Fifth year	After 5 years
					{ 1st 6 mos.	{ 2nd 6 mos.				
Brooklyn (Rapid Transit)	867	54	54	55		57	57	57	57	57
Brooklyn (Surface lines)	918	52	52	52		57	62	62	62	62
Staten Island, N. Y.	726	50	55	55		60	60	60	60	60
Chicago (Elevated)	308	77	77	77		77	77	77	77	77
Chicago (Surface)	241	75	78	78		80	80	80	80	80
Boston (Surface)	58	58	64	64		70	70	70	70	70
Boston (Rapid Transit) Guards ..	589	62	63	63		65	65	65	65	65
Newark, Hoboken, Jersey City, Paterson, Elizabeth, Camden, etc.	819, 820, 821, 822, 823, 880, etc.	50	53	53		55	55	55	55	55
Detroit	26	70	73	73		75	75	75	75	75
Cleveland	268	70	73	73		75	75	75	75	75
Pittsburgh	85	64	64	64		68	70	70	70	70
St. Louis	788	55	55	55		60	65	65	65	65
New Haven, Hartford, Bridgeport, etc	459, etc.	54	54	54		57	60	60	60	60
Fall River, Lynn, Lawrence, Lowell, etc.	174, 238, 261, 280, etc.	56	59	59		62	62	62	62	62
Los Angeles	835	40	40	40		45	45	45	45	45
San Francisco	518, 687	62½	62½	62½		62½	62½	62½	62½	62½
Ruffalo	623	55	58	58		60	60	60	60	60
Rochester, Syracuse and Utica ..	282, 580, 582	56	58	58		60	60	60	60	60
Washington, D. C.	689, 875	51	54	54		56	56	56	56	56
Providence	618	51	54	54		56	56	56	56	56
Cincinnati	634	51	54	54		56	56	56	56	56
New Orleans	194	49	49	52		55	55	55	55	55
Oakland	192	52	55	55		59	59	59	59	59
Richmond, Va.	910	43	45	45		47¼	47¼	47¼	47¼	47¼
Norfolk	891	43	45	45		47¼	47¼	47¼	47¼	47¼
Seattle	587	59¾	59¾	62½		65½	65½	65½	65½	65½
Columbus, O.	817	45	48	48		50	50	50	50	50
Alton and Canton	98, 702	59	59	59		62	65	65	65	65
Worcester	22	55	60	60		65	65	65	65	65
Omaha	807	53	55 1st 3 mos.	55 2nd 3 mos.		57	57	57	57	57

NOTE 3 (*Page 591*). Chart C-5, referred to in the text, and other charts dealing with trainmen's wages, trainmen's efficiency and the cost of living appeared in the printed "Argument and Brief," submitted on behalf of the Amalgamated Association by W. Jett Lauck, Southern Building, Washington, D. C.

NOTE 4 (*Page 592*). This exhibit, comprising 179 typewritten pages, is an important source-document of information in the history of street railway overcapitalization. It was submitted in typewritten form, and, unfortunately, was not included in the published Proceedings of the Commission.

CHAPTER XLVII

NOTE 1 (*Page 598*). The situation revealed by the Amalgamated's wage booklet of JANUARY 1, 1921, is about the same as it was a year earlier with respect to the matter mentioned in the text, except that a local has been organized at Allentown on the Lehigh Valley Transit system, and the local on the Louisville Railway lines has been dropped out.

SUMMARY

NOTE 1 (*Page 644*). This summary is included in the Proceedings, Volume III, pages 2135 to 2148.

NOTE 2 (*Page 653*). The increase in the rate of return from 6 per cent to 7 per cent on the Cleveland Railway stock was defeated by popular vote after having been recommended by a board of arbitration. See Note 3, Chapter XXXIX, and Note 2, Chapter XLI.

APPENDIX A

NOTE 1 (*Page 663*). Ford, Bacon & Davis were selected to do this work, and Colonel Chas. N. Black, a member of the firm, had direct charge of the appraisal. Colonel Black had already appeared (April 17, 1919) before the New Jersey Board of Public Utility Commissioners as an expert witness for the Public Service Railway Company in the very valuation proceeding for which the new valuation was to be substituted. It is noteworthy, also, that Ford, Bacon & Davis financed the New Jersey & Hudson River Railway & Ferry Company, reconstructed some of its lines and then disposed of it to the Public Service Railway in 1910.

NOTE 2 (*Page 663*). By Chapter 351, of the Laws of 1921, approved April 13, 1921, one day before the Ford, Bacon & Davis report was filed, the valuation act of 1920 was amended so as to take away from the engineering concern's valuation the finality which the original act attempted to give it. Section 9 of this unique valuation act, with amendments made in 1921 shown in italics, is as follows:

"When the valuation of the property of any street railway or traction company is completed as herein directed, the engineering concern so selected to make such valuation shall file with the commission herein constituted a complete and detailed report of such valuation in form available for use for the purpose of fixing rates under existing laws, which report, together with all documents and maps, and other papers accompanying same shall be immediately transmitted to and filed with the Board of Public Utility Commissioners of this State and shall be a public record, open to the inspection of the public at all reasonable times, and shall be admitted as evidence in the courts of this State and shall be evidence of the facts therein contained to the same extent as though the same had been produced and proved and the value of the property as set forth in said report shall be accepted by the Board of Public Utility Commissioners of this State as *presumptive evidence* of the value of said property as of the date specified in said report in any rate proceeding under any law of this State to the extent that the value of said property is a factor in the fixing of a rate; *provided, that the counsel of any such street railway or traction company, or of any municipality or municipalities affected by such rate or charge, or of the Board of Public Utility Commissioners, may cross-examine the person or persons preparing such report upon any facts,*

statements or figures therein; provided, further, that the Board of Public Utility Commissioners, at any hearing or hearings for the purpose of fixing rates or charges of such street railway or traction company, may request such street railway or traction company, or any municipality or municipalities affected by such rates or charges, to submit other evidence of the value of the property of such street railway or traction company, subject to cross-examination by any interested party; provided, further, that the said Board of Public Utility Commissioners may also, on its own initiative, submit such other evidence, subject to cross-examination by an interested party; and may also consider the evidence heretofore duly submitted to it in any hearing or investigation before said board involving the reasonableness of the rates or charges of such street railway or traction company, in so far as such evidence relates to the value of the property of any such street railway or traction company; and provided, further, that any hearing or hearings for the purpose of fixing rates or charges of such street railway or traction company shall be preferred over all other hearings before said Board of Public Utility Commissioners, and shall be determined and decided within three months from the date of the filing of the said report of the valuation of such street railway or traction company."

NOTE 3 (Page 663). Under date of June 5, 1920, in response to this letter, State Comptroller Bugbee made the following statement of his position: "The Legislature having instructed the State House Commission to perform a certain task in connection with the valuation of the Utilities of the State of New Jersey, there is nothing for me, as an Officer of the State, to do except to go ahead, and perform that task which I expect to do, as soon as possible." The Governor, the State Treasurer and the State Comptroller in New Jersey constitute the State House Commission. These same officials were constituted the Street Railway Valuation Commission by the act referred to in the text, which was passed over the Governor's veto. Governor Edwards refused to act with his colleagues, Messrs. Read and Bugbee, but these two officials, nothing daunted, entered into a contract with Ford, Bacon & Davis under date of August 30, 1920, for the valuation of the Public Service Railway property for approximately \$100,000. The appraisal report was filed in April, 1921.

NOTE 4 (Page 666). The Public Service Railway was unsuccessful in its injunction suits against the jitneys, but it did succeed finally in getting a bill through the legislature of 1921 looking toward the restriction of jitney competition. Under this new law, jitneys in operation on March 15, 1921, continue to be free from regulation by the utilities commission, but any new jitney desiring to start operation on a street occupied by a street railway must not only get the usual city license, but must also procure a certificate of public convenience and necessity from the state commission.

NOTE 5 (Page 667). For the twelve months from June, 1920, to May, 1921, inclusive, the total number of jitney passengers in Newark was 45,526,077, or an average of 124,729 per day. This shows an increase of 14½ per cent over the preceding twelve months' period. The jitney traffic reached a new monthly maximum in March, 1921, when there were 4,392,950 passengers, or 141,708 per day. In May, 1921, the total number of passengers and the daily average were slightly less—4,232,517 and 136,533, respectively.

NOTE 6 (Page 670). On June 22, 1921, the Public Service Railway Company made a new wage agreement with its motormen and conductors covering a two-year period from August 1, 1921, by which the hourly wage rates were reduced about ten per cent from the level reached in 1920. Mr. Thos. N. McCarter, president of the company, testifying before the utilities board on June 30, 1921, estimated that this wage reduction would amount to about \$900,000 per annum.

NOTE 7 (Page 670). In December, 1920, not having succeeded in getting rid of jitney competition, the Public Service Railway Company filed a new rate schedule calling for a 10-cent fare, to be effective January 1, 1921. This rate was suspended by the old Board of Public Utility Commissioners for three months. During a part of this

period the regulating power in New Jersey was paralyzed by a deadlock between the Governor and the Legislature with respect to the appointment of a new board, after the members of the old board had been removed. Finally, when the new board got to functioning, the Public Service Railway 10-cent fare schedule was suspended for another three months' period until July 1, 1921. After public hearings, the new board refused to recognize the continuance of the emergency that arose during the war period, and on May 20, 1921, dismissed the 10-cent fare application, pending the final completion of the valuation proceeding started two years earlier.

The Ford, Bacon & Davis appraisal, procured by the State House Commission under the terms of the 1920 street railway valuation act, fixed the value of the Public Service Railway property at \$125,000,000. This valuation was considered by the Utilities Board along with the testimony of witnesses for the company, for the municipalities and for the board itself in the old proceeding. On July 14, 1921, the board rendered its decision, fixing the valuation of the property at \$82,000,000, and the "permanent" fare at seven cents with a charge of two cents for a transfer.

NOTE 8 (*Page 712*). For changes in this law made by the 1921 legislature, see Note 2 of Appendix A.

INDEX

TO

ANALYSIS OF THE ELECTRIC RAILWAY PROBLEM

- Abandonment of unprofitable lines: effect of, on new capital requirements, 29; due to overbuilding, 63-64; Eastern Massachusetts Street Railway Company, 64; general discussion, Ch. XXXV, 322-326.
- Accident expense: reduction of, in Philadelphia (C. J. Joyce), 270.
- Adamson Law: Chief Justice White on, 550-551.
- Ainey, William D. B.: on overcapitalization, 40-41; on effect of fare increases, 174; on service at cost, 491.
- Akron, Ohio: (See also Northern Ohio Traction & Light Co.); wage rates, 533, Note 1 of Ch. XLIII.
- Albany, N. Y.: (See also United Traction Company); Note 2 of Ch. XLIII, Note 3 of Ch. XLIII.
- Allentown, Pa.: (See Lehigh Valley Transit Co.)
- Almert, Harold: connection with Public Service Railway valuation, 662, 688, 707-708.
- Amalgamated Association of Street and Electric Railway Employes: (See also Labor); defends wage increases, 11-12; wage theory (W. J. Lauck), 13-14, wage scales, Jan. 1, 1920, 532-533, Jan. 1, 1921, Note 1 of Ch. XLIII; increase in number of locals, 534; program of, Ch. XLVI, 564-597; extent of organization, 598; relation to Philadelphia plan (T. E. Mitten), 603-604; relation to Milwaukee plan (J. D. Mortimer), 612; program contrasted with cooperative and Plumb plans, 616.
- American Electric Railway Association: minimizes overcapitalization, 41-42; compilation to show effect of fare increases, criticized, 178-180; statistics of track abandonment, 323; statistics of track in receivers' hands, 329; on continuation of private ownership, 529.
- Committee on Valuation: treatment of depreciation, 53, 698; personnel of, 345-346; report of, 346-352, Note 1 of Ch. XI; theory of "created value," 350, 689.
- Committee on Zone Systems: definitions, and discussion of zone rates, 221-222.
- Committee on One-Man Car Operation: 272-273, 276, 277, 278-280.
- Amortization: of excess capitalization, neglect of, Ch. X, 43-45; of normal accrued depreciation, Ch. XI, 46-54, 401-402; of entire capital, Glasgow, 53; of superseded property, (C. W. Beall) 151-152, (G. E. Tripp) 366-367; of capital, under service at cost, 438-439; of capital, proposed policy for Cleveland, 453-454, (D. F. Wilcox) 455.
- Anderson, Henry C.: connection with Public Service Railway valuation, 661.
- Appreciation of land: Massachusetts Public Service Commission on (Bay State Case), 375.
- Arbitration: (See also Wage boards, Continuity of service)
- of franchise disputes: in Cleveland, 444; under Jenks bill, 463-464; in Cincinnati, 484.
 - of labor disputes: in Des Moines, 537-538; compulsory (T. L. Sidlo), 543-544; Massachusetts Special Commission on, 544-545; objections to Massachusetts bill, 545-549; Canadian compulsory investigation act, 549; Samuel Gompers on, 559; T. S. Williams on, 559; under Philadelphia plan, 608.
- Atlanta, Ga.: (See also Georgia Railway & Power Co.); wage rates, 533, Note 1 of Ch. XLIII.
- Automobiles: (See also Jitneys); number in 1917, compared with street cars, 2; effect on credit, Ch. XX, 99-112.
- Babcock, E. V.: on regulation (Pittsburgh), 429, 430; on service at cost, 501, 502; on public ownership with private operation, 507.
- Babson, Roger W.: on jitney competition, and regulation, 104-106, 292-293; on change in value of securities, 121-122; on taxation, paving and other charges, 254-255; on municipal ownership, 470-471.

- Baker, Newton D.: on Cleveland reorganization, 51; on absence of overbuilding in Cleveland, 61-62; on zone systems, 238-239; on use of trailers in Cleveland, 269; on regulation, 427-428; on Cleveland plan, 446-451.
- Baltimore, Md.: 1917-1919 comparison of fares and traffic, 184, 206, of fares and revenues, 190, 209.
- Banker control: Ch. XIV, 67-74
- Barker, W. S.: connection with Public Service Railway valuation, 707, 708-709.
- Barry, John G.: on loss of credit, 7; on increased cost of materials, and need of fare increases, 124-125.
- Battle Creek, Mich.: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 209; wage rates, 533, Note 1 of Ch. II, Note 1 of Ch. XLIII.
- Bauer, R. S.: on overbuilding, 64; on banker control, 73; advocates free street car service, 309; on Boston Elevated plan, 471.
- Bay State System: (See Eastern Massachusetts Street Railway Co.)
- Beall, Charles W.: on amortization of superseded property, 151-152; on effect of local conditions on selling price of securities, 399; on effect of readjustment in rate of return, 499.
- Beeler, John A.: on remedies, 137-139; on effect of fare increases, 174-175; on operating economies and increased earnings, 263-265, 267-268; on standardization of equipment, 269-270; operating economies suggested, 271; on automobile and jitney competition, 288-289; on jitney regulation, 292; on contributions by property owners for extensions, 317; on abandonment of lines, 326; on regulation, 433; on need of public cooperation, 715.
- Bemis, Edward W.: on valuation, 381-382; on service at cost, 488; connection with Public Service Railway valuation, 702.
- Berkeley, Calif.: (See San Francisco-Oakland Terminal Railways Co.)
- Bertron, Samuel R.: on demand for securities, 7; on remedies, 135-136; on public ownership, Note 2 of Ch. XXIII.
- Bethlehem, Pa.: (See Lehigh Valley Transit Co.)
- Birmingham, Ala.: 1917-1919 comparison of fares and traffic, 187, 205, of fares and revenues, 193, 208; wage rates, 533, Note 1 of Ch. XLIII.
- Bliss, William C.: on increased costs and labor control, 11; on jitney competition, 106-107; on remedies, 138-139; on Rhode Island zone system, 224-226.
- Bliss, Zenas W.: on taxation of the Rhode Island Company, 83.
- Blood, William H.: connection with Public Service Railway valuation, 687-688.
- Board: (See also Wage boards)
of award: Merchants Association plan, 556.
of directors: employe representation on (J. D. Mortimer), 613-614.
of conciliation: in Wisconsin (J. D. Mortimer), 615.
- Bond discount: American Electric Railway Association, Committee on Valuation, on 351; treatment of, in valuation (G. E. Tripp), 364.
- Bonds of utilities under public ownership: (See also Securities); forms of security for, 514-527; in State of Washington, 515-520; Wisconsin provisions, 525-527.
- Boston Elevated Railway Company: depreciation policy (J. D. Mortimer), 56; depreciation and maintenance (F. J. McLeod), 57-58; changes in fare, 164; effect of fare increase (H. Loring), 177-178; 1917-1919 comparison of fares and traffic, 183, 199, 207, of fares and revenues, 189, 210; financial condition, 196-197; comparison of fares and traffic with Philadelphia Rapid Transit Company, 198; comparison of fares and traffic with New York City, 198; public subsidies 311-312; value of securities of (B. Warren) 398-400; service-at-cost plan, 464-471; use of public credit, 506; 1919 strike data, 531 wage rates, 532, Note 1 of Ch. XLIII; wage increases, 581-583; recent fare experiments Note 2 of Ch. XXVII.
- Boyden, Roland W.: on prevention of strikes 545.
- Bradlee, Henry G.: on importance of the industry, 2-3; on credit situation, 7; on new capital requirements, 21-23, 25-28; testimony criticized, 25, 27-30; on overcapitalization 38-39; on remedies, 136; on effect of fare increases, 169; on savings in power, 269; on valuation, 367-368; on service at cost, 493.
- Bridge repairs and tolls: freedom from, in Cleveland (J. J. Stanley), 251; G. C. Cummin on, 256; F. H. Sisson on, 257; relief from (R. T. Higgins), 291.
- Bridgeport, Conn.: (See also Connecticut) jitney and street car traffic, 102; wage rate 532, Note 1 of Ch. XLIII.
- "Brokerage": defined by A. E. R. A. Committee on Valuation, 349.
- Brooklyn Rapid Transit Co.: (See also New York City); 1918-1919 taxes (of subsidies), 86; 1917-1919 comparison of fare and traffic, 183, of fare and revenue, 189; wage rates, 532, Note 1 of Ch. XLIII; strike Note 2 of Ch. XLIII.
- Budget: company, under Cincinnati plan, 48-484, (W. A. Draper) 487; family (W. Ogburn), 572-579.
- Buffalo, N. Y.: 1917-1919 comparison of fare and traffic, 184, 205, of fares and revenue

- 190, 208; wage rates, 332, Note 1 of Ch. XLIII.
- Buffalo & Lake Erie Traction Co.: (See Erie, Pa.)
- Bugbee, Newton A. K.: letter of D. F. Wilcox to, *re* New Jersey situation, 661-663; statement and policy of, Note 3 of Appendix A.
- Bullock, Charles J.: on taxation, 80, 82-83; on taxation relief, 257-258; on "equal taxation" and limited tax exemption, 307-308.
- Caldwell, Hugh M.: investigation of Seattle railway situation, 521.
- Calgary, Alta.: wage rates, 533, Note 1 of Ch. XLIII.
- California: jitney competition, (P. Shoup) 99-100, (R. R. Commission) 106; commission regulation (W. E. Creed), 419-420.
- Camden, N. J.: (See also Public Service Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Canton, Ohio: (See also Northern Ohio Traction & Light Co.); wage rates, 533, Note 1 of Ch. XLIII.
- Capital: (See also Return on capital, Credit, Securities, Refunding); new, amount required annually, Ch. VI, 21-30; necessity of new, Ch. VII, 31-34; cost of, in relation to other costs, 117-118; necessary conditions for new (H. Erickson), 158-159; scarcity of free, 388; necessity of stability of values to attract, 388; requisites for welfare of, 714.
- Capital Traction Company: (See Washington, D. C.)
- Capitalization: (See also Overcapitalization, Regulation); net, total and per mile, for 1917, 1; compared with steam railroads, 1; increase over 1902, 16; annual additions (table), 23, 28; methods of figuring, 24-28; Massachusetts policy, 39-40, (J. B. Eastman) 57; Cleveland Railway Company, 45; holding company abuses in Massachusetts, 67-69; ratio of earnings to, in Cleveland, 87; regulation of, Ch. XVIII, 92-96; total net, 1917, 330; per mile of track, 331; relation to value (F. H. Sisson), 335-337; relation to value at beginning of war (M. L. Cooke), 341; relation to fares in Cleveland, 446; of Pittsburgh Railways, 512.
- Carlton, Frank T.: on compulsory arbitration, 547-548.
- Carr, James O.: on commission regulation, 417-419.
- Car trust certificates: W. H. Heulings on, 126.
- Chapin, Robert Cort: on family incomes, 569-570.
- Chicago, Illinois: operating plan not service at cost, 163; 1917-1919 comparison of fares and traffic, 184, 199, 205, 207, of fares and revenues, 189, 208, 210; comparison of fares and traffic, surface lines with elevated, 201; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; 1917, 1919 and 1920 valuations of surface lines, 727, 728; depreciation and maintenance on surface lines, 744; 1920 wage increase on surface lines, Note 1 of Ch. II; fare increase on surface lines, Note 1 of Ch. XV.
- Cincinnati, Ohio: changes in fare, 164; 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; franchise taxes (W. C. Culkins), 250-251; saving by rerouting, 267; rate of return, 403; service-at-cost plan, 478-487; comments on plan (C. K. Robinson), 502-503; wage rates, 532, Note 1 of Ch. XLIII.
- Civil service: relation to public ownership, Ch. XLVIII, 618-620.
- Clark, Harlow C.: on franchise obligations, 85; on possible remedies, 131-132; on fare increases, 162-163; on regulation, 430-431.
- Clark, William J.: on overcapitalization, 39; on possible improvements in motors, 290; on Henry Ford's gasoline car, 290.
- Cleveland Railway Company: wage arbitration, 6; financial policy, 19; replacement policy, 33, 52, 394; capitalization, 45; depreciation percentage (H. J. Davies), 48-49; condition of property (Board of Arbitration), 48-49; criticism (J. D. Mortimer), 50-52, 55-56; reorganization (N. D. Baker, J. J. Stanley), 51; construction policy (N. D. Baker), 62; policy as to banker control, 73; ratio, earnings to capitalization, 87; operating ratios, 124; changes in fare, 163-164; 1917-1919 comparison of fares and traffic, 184, 199, 208, of fares and revenues, 190, 210; taxation and paving obligations and comparison with Public Service Railway, 251-252; use of trailers (N. D. Baker), 269; contributions by property owners for extensions (J. J. Stanley), 317; rate of return, 391-394, 403-404; local regulation in (J. J. Stanley), 426-427; features of Tayler plan, 440-456; wage rates, 531-532, Note 1 of Ch. XLIII; 1919 strike data, 531; schedules of working time, 584-585; shortcomings of Tayler plan, 635-636; 1919 value, 729, 730; discussion of Tayler plan, in connection with Denver situation, 738-743; maintenance and depreciation, 744; recent wage changes, Note 1 of Ch. II; achievements under Tayler plan, Note 2 of Ch. XI; 1920 fare increase, Note 1 of Ch. XIII.
- Collective bargaining: (See also Unions); under New York Public Service Commission bill, 553-554; under Philadelphia plan, 605-608.
- Colorado Public Utilities Commission: valuation of Denver Tramway Co., 727-738; treatment of depreciation in Denver case, 744.

- Columbus, Ohio: 1917-1919 comparison of fares and traffic, 186-205; of fares and revenues, 191, 209; 1919 strike data, 531; wage rates, 533, Note 1 of Ch. XLIII.
- Competition: (See Automobiles, Jitneys).
- Congestion:
- of business districts: effect of zone plan (W. C. Bliss), 224-225; W. D. George on, 240; relation to city planning, 322-323.
 - of population: effect of fare policy, 221; W. C. Bliss on, 224-226; effect of zone fares (L. S. Storrs), 235; N. D. Baker on, 239; D. C. Jackson on, 239-240; W. D. George on, 240; C. H. Mote on, 240-241; W. Jackson on, 241-242; relation to city planning, 322-323.
- Connecticut: overbuilding in (R. T. Higgins), 65; use of police power in (L. S. Storrs), 89-90; jitney competition in (L. S. Storrs), 101-103; effect of fare increases in (L. S. Storrs), 170-171; 1917-1919 comparison of fares and traffic (Connecticut Company), 184, 206, of fares and revenues, 190-209; zone systems in (L. S. Storrs), 232-235; public subsidies in (L. S. Storrs), 314; wage rates, 532, Note 1 of Ch. XLIII.
- Constitutional limitations: as to subsidies, in New York and Massachusetts, 305-307.
- "Construction costs": defined by A. E. R. A. Committee on Valuation, 349.
- Contingencies: M. E. Cooley on, 354-355; treatment of, by Interstate Commerce Commission in Texas-Midland case, 377-378.
- Continuity of service: importance of, 541; Industrial Conference on, 551-552; plans for (New York State), 552-560.
- Contracts: inviolability of, 117, 721; municipal, effect of regulation on, 405; of individual employes with company, 555-556.
- Contributions by property owners: (See also Subsidies); for extensions, in Cleveland, (J. J. Stanley) 317, (J. A. Beeler) 317.
- Conway, Thomas: on effect of wage increases, 12; on labor relations, 154-155; on limitations of fare increases, 172-174; on relation of fare increases to revenues, 211, 213; on relief from taxes and other burdens, 257; on subsidies and public ownership, 315-316; on rate of return, 400; on commission regulation, 423-425.
- Cooke, Morris L.: on banker control and holding companies, 70-71; on inefficient management and war conditions, 128; on inefficiency of management, 262-263; on relation of capitalization to value at beginning of war, 341; on reorganization, 341; on commission regulation, 425-426; on service at cost, 488-489, 503.
- Cooley, Mortimer E.: on effect of wage increases, 12; on depreciation, 46-47; experience in valuation work, 346; on valuation, 353-361, 369-370; on increase in rate of return, 388; connection with Public Service Railway valuation, 661, 681-691, 693-706.
- Cooperation: (See also Labor)
- labor: Philadelphia plan, part played in re-routing (C. J. Joyce), 266-267; W. J. Lauck on, 567; fixing of wages under, 568; general discussion, 598-611; Milwaukee plan, 611-616.
 - public: in regard to Cleveland plan, (N. D. Baker) 446, (Sanders) 452; cannot supersede public control, 675; the price of, 715; proper methods of, 725.
- Cooperative Welfare Association (Philadelphia): 608-609.
- Coppage vs. Kansas: Justice Pitney quoted on freedom of contract, 545.
- Corunna, Mich.: (See Owosso, Mich.)
- "Cost of consolidation": A. E. R. A. Committee on Valuation on, 350.
- Cost of living: (See also Living wage); relation of wage increases to (W. J. Lauck), 11-12, 13-14; amount of increase in, 571; going down, Note 2 of Ch. XLIII, Note 2 of Ch. XLVI.
- Cost of service: defined, 303-304; danger of becoming prohibitive, 674.
- Council Bluffs, Iowa: (See Omaha & Council Bluffs Street Railway Company).
- Council of National Defense: Highways Transport Committee on motor truck competition, 298.
- Couzens, James: on public ownership, 146-147.
- "Created value": A. E. R. A. Committee on Valuation on, 350, 689; claimed by Public Service Railway Co., 689.
- Credit: (See also Receiverships, Refunding); necessity for restoration of, Ch. II, 6-8; interrelation with labor and public relations, Ch. IV, 15; normal conditions favorable to, Ch. V, 16-20; responsibility for loss of, Ch. XIX, 97-98; methods of restoring, Ch. XXIII, 129-139; relation of net earnings to, Ch. XXVI, 157-159; H. Loring on, 476; public, use of, Ch. XLII, 505-529.
- Reasons for loss of: general, Ch. VIII, 35; overcapitalization, Ch. IX, 36-42, Ch. X, 43-45; unamortized depreciation, Ch. XI, 46-54; unearned dividends and neglect of maintenance, Ch. XII, 55-60; overbuilding, Ch. XIII, 61-66; holding companies and banker control, Ch. XIV, 67-74; uniform 5-cent fare, Ch. XV, 75-77; special taxation and franchise obligations, Ch. XVI, 78-87; service requirements, Ch. XVII, 88-91; public regulation of capitalization, Ch. XVIII, 92-96; jitney competition, Ch. XX, 99-112; demands of labor, Ch. XXI, 113-115; decreased value of money, Ch. XXII, 116-128.

- Creed, W. E.: on taxes and franchise obligations, San Francisco-Oakland Terminal Railways Co., 83-84; on regulation of capitalization, 95-96; on commission regulation in California, 419-420.
- Crowell, Howard H.: connection with Public Service Railway valuation, 687, 688.
- Culkins, W. C.: on franchise taxes, Cincinnati, 250-251; on Cincinnati plan, 479, 484-486; retirement as Director of Street Railways, Note 5 of Ch. XLI.
- Lumberland County Power and Light Company, Portland, Maine: effect of fare increase (A. H. Ford), 174; percentage increases in fares and revenues (1919), 179; 1917-1919 data on fares and traffic, 188, on revenues, 194; zone system (A. H. Ford), 228-229; wage rates, 533, Note 1 of Ch. XLIII; recent fare increase, Note 5 of Ch. XXIX.
- Cummin, Gaylord C.: on jitney competition and classification of companies, 107-108; on remedies, 138; on paving charges and bridge rentals, 255-256; on difficulty of valuation, 372; on rate of return, 402.
- Dallas, Texas: jitney competition in (W. B. Head), 108-109; fare under service at cost, 164; 1917-1919 comparison of fares and traffic, 187, 205, of fares and revenues, 193, 208; fare limits in (W. B. Head), 501.
- Dane County Circuit Court: treatment of depreciation and going value, 736.
- Danforth, Richard E.: statements regarding jitneys, 666-668.
- Davies, Henry J.: on Cleveland depreciation, 48.
- Dayton, Ohio: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 209; wage rates, 533, Note 1 of Ch. XLIII.
- DeBerard, Frederick B.: on public ownership, 141-145.
- Denver, Colo.: 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; wage rates, 533, Note 1 of Ch. XLIII; Report on Certain Aspects of the Traction Problem of, Appendix B, 717-748; overheads allowed in Denver Union Water Case, 733; going value allowed in same, 735; strike, Note 2 of Ch. XLIII.
- Depreciation: (See also Amortization); J. D. Mortimer on, 49-50, 51-52, 55-56; Public Service Railway Co., 53, 697-698; A. E. R. A. Committee on Valuation, treatment of, 53, 351; San Francisco Municipal Railway, 53-54; Boston policy (J. D. Mortimer), 56; Massachusetts policy (J. B. Eastman), 56-57; in valuation (G. E. Tripp), 364; Boston Elevated (F. J. McLeod), 468-469; L. R. Nash on, 497-498; method used in Seattle, 521-524; under Philadelphia plan (J. D. Mortimer), 599-600; discussion *re* Denver situation, 736-737, 744-748; Cleveland treatment, 746.
- Normal accrued: effect of amortizing, on credit, 18; failure to amortize, Ch. XI, 46-54; treatment in Knoxville water case, 746.
- Current: M. E. Cooley on, 47; Boston Elevated (F. J. McLeod), 57-59; Public Service Railway, 59.
- Des Moines, Iowa: 1917-1919 comparison of fares and traffic, 187, 205, of fares and revenues, 193, 208; wage rates, 533, Note 1 of Ch. XLIII; 1919 strike, 531, 538-539; arbitration provisions, 537-539; overhead and going value allowance in Gas Case, 733, 735.
- Detroit, Mich.: 1917-1919 comparison of fares and traffic, Detroit United Railway, 184-199, (interurban lines) 205, (one-fare zone) 206, of fares and revenues, 189, (interurban lines) 208, (one-fare zone) 210; taxation under municipal ownership plan, 259; use of trailers, 269; municipal ownership fare provisions of charter, 310-311; determining fare under municipal operation, 525; wage rates, 532, Note 1 of Ch. II, Note 1 of Ch. XLIII; 1919 strike data, 531; schedules of working time, 584; 1915 valuation, 727, 728; proposed purchase price (1919), 729, 730; recent wage changes, Note 1 of Ch. II; recent fare changes, Note 1 of Ch. XV; municipal ownership program, Note 2 of Ch. XXVIII, Note 1 of Ch. XXXIV.
- Development costs: M. E. Cooley on, 358-359; Massachusetts Public Service Commission on (Bay State case), 375; in Public Service Railway Co. valuation, 698-701, 707, 708, 709.
- Devine, Edward T.: connection with Denver investigation, 719.
- Discipline: under Philadelphia cooperative plan (T. E. Mitten), 604.
- Distance tariff: (See Zone fares).
- Dividends: unearned, Ch. XII, 55-60.
- Doherty, Henry L.: on loss of credit, 70; on effect of fare increases, 169-170; on relief from special burdens, 257; on local regulation in Toledo, 428; on regulation, 428-429.
- Douglas, Professor Paul H.: on Seattle's experiment with municipal traction, Note 4 of Ch. XLII.
- Draper, Walter A.: on regulation, 426; on incentive under service at cost, 486-487; on budget plan (Cincinnati), 487.
- Earnings: gross: totals, 1902-1917 (table), 27; ratio of, to capitalization in Cleveland, 87. net: statistics of (J. W. Welsh), 157; decrease in (H. Erickson), 157-159; relation of, to credit, 157-159.

- Eastern Massachusetts Street Railway Company: rehabilitation of, 33; abandonment of track, 64; changes in fare, 164; fare system and its effect, 176-177; data on fares and traffic, 184, on 1917-1919 revenues, 190; zone system, 226; public subsidies, 312-313; service-at-cost act (H. Loring), 312; decision of Massachusetts Public Service Commission in rate case, 374-375; value of securities, 399; service-at-cost plan, 471-476; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; 1916 valuation, 728-729; recent fare reductions, Note 2 of Ch. XXVII.
- Eastman, Joseph B.: on credit situation, 8; on overcapitalization, 40; on depreciation and capitalization policy in Massachusetts, 56-57; on holding company abuses in Massachusetts, 69; on regulation of capitalization in Massachusetts, 93; on jitney competition, 100; on public ownership, 145-146; on zone systems, 227-228; on paving requirements, 256; on operating economies and proper maintenance, 271; on service at cost in Massachusetts, 471.
- Economies: (See Operation, Power).
- Edmonton, Alta.: wage rates, 533, Note 1 of Ch. XLIII.
- Edwards, Gov. Edward I.: letter of D. F. Wilcox to, *re* New Jersey situation, 664-665; refused to serve on valuation commission, Note 3 of Appendix A.
- Efficiency: (See Management).
- Eight-hour day: sought by Amalgamated Association, 583; in certain cities, 585; consequences of, 585.
- "Elastic 6c Fare Ordinance" (Denver): 743-744.
- Elizabeth, N. J.: (See also Public Service Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Elmes, Cecil Frederick: connection with Public Service Railway valuation, 692.
- Employees Mutual Benefit Association: in Milwaukee (J. D. Mortimer), 612, 613-615; in St. Louis, 614.
- Engineers Valuation Board: (See Pittsburgh). Equipment, standardization of, (W. H. Heulings) 126, (J. A. Beeler) 269-270.
- Frickson, Halford: on decrease in net earnings, 157-159; on conditions necessary for new capital, 158-159; on cost of capital, 394-395.
- Frickson, Oliver T.: municipal ownership and fare policies in Seattle, Note 4 of Ch. XLII.
- Erie, Pa.: 1917-1919 comparison of fares and traffic, 188, 207, of fares and revenues, 194, 210; wage rates, 533, Note 1 of Ch. XLIII.
- Extensions: (See also Special assessments, Subsidies); paid for by property owners (J. J. Stanley), 317; J. A. Beeler on, 317; construction of, 322; franchise defects as to, in Cleveland (F. Sanders), 452; necessity of, as affecting fares and ownership, 722-723.
- Fagan, Charles A.: on neglected maintenance, 60; on Pittsburgh zone experiment, 223; on public attitude in Pittsburgh, 425; on public regulation in Pittsburgh, 425.
- "Fair value": (See Valuation).
- Fall River, Mass.: (See also Eastern Massachusetts Street Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Fare increases: (See also Fares); complexity of problem, 116-118; need for (J. G. Barry), 125; H. C. Clark on, 131; S. R. Bertron on, 135; purpose of, Ch. XXVII, 160-164; effect of, Ch. XXVIII, 165-217; discussion of, as solution of problem, 327-328; effect on Eastern Massachusetts Company (H. Loring), 474-476; service-at-cost cities compared with others, 495; efforts of Public Service Railway to obtain, Appendix A, 659-716; in Seattle under municipal ownership, Note 4 of Ch. XLII.
- Fares: (See also Zone fares, Fare increases); uniform 5-cent rate, discussion of, Ch. XV, 75-77; H. J. Pierce on continuing 5-cent rate, 132; list of cities retaining 5-cent fare, 160; rates, in various cities, 161-162; effect of service at cost on, 163-164; average for various cities, 203-204; New York City—use of motor buses to compel restoration of 5-cent rate, 287-288; regulation of jitney (R. W. Babson), 292-293; "knocking down" and failure to collect, in Indiana (C. H. Mote), 300; low, advocated by F. F. Ingram, 309-310; Detroit provisions under municipal ownership, 310-311; early profits under 5-cent rate, 328-329; in Cleveland, 443, 445-446; under Montreal contract, 462-463; on Boston Elevated, 468; on Eastern Massachusetts, 474, 475; under Massachusetts service-at-cost act, 477; under Cincinnati plan, 482, 485; limits, in Dallas (W. B. Head), 501; desirability of upper limit, 739; examples of pre-war achievements under 5-cent fare, Note 2 of Ch. XI; recent changes *re* 5-cent fare, Note 1 of Ch. XV.
- "Fifty-fifty" bill: (See Loring, Homer).
- Fire insurance: policy of Philadelphia Rapid Transit Co. (C. J. Joyce), 270.
- Fisher, Irving: on decreased value of money, 119-121; on increased rate of return, 388-390.
- Ford, A. H.: on effect of fare increases in Portland, Me., 174; on zone system in Portland, Me., 228-229.
- Ford, Henry: substitution of gasoline for electricity, 66, 281; comment by W. J. Clark 290.

- Ford, Bacon & Davis: appraisal cited, 44; selected to make New Jersey valuation, Note 1 of Appendix A; report of, filed, Note 3 of Appendix A; valuation by, based on assumption of 10-cent fare, Note 7 of Appendix A.
- Fort Wayne & Northern Indiana Traction Co.: percentage increases in fares and revenues, 180.
- Fort Worth, Texas: 1917-1919 comparison of fares and traffic, Northern Texas Traction Co., 188, (city lines) 205, (interurban) 206, of fares and revenues, 194, (city lines) 208, (interurban) 209.
- Foss, Eugene N.: on banker control, 72-73; on public ownership, 143-144, 509-510; on regulation in Massachusetts, 406-407.
- Fowler municipal ownership bill: personnel management provisions of, 619; determination of value under, 639-640.
- Franchise obligations: discussion of, Ch. XVI, 78-87; relief from, Ch. XXX, 244-259.
- Franchises: significance of, 4.
- Franchise taxes: in Rhode Island (Z. W. Bliss), 83; special, in New York, 85-86, (D. F. Wilcox) 246; L. R. Nash on, 250; in Cincinnati (W. C. Culkins), 250-251; in Montreal, 251.
- Franchise values: G. E. Tripp on, 248.
- Funds: (See also Depreciation); interest (Cleveland), 443; contingent reserve (Montreal), 461; tolls reduction (Montreal), 461-462; reserve (Boston Elevated), 465-467; reserve (Cincinnati), 481; reserve under Massachusetts service-at-cost act, 477; for public utility acquisition (State of Washington), 516-517; municipal street railway bond (Seattle), 517-518; for municipally owned utilities, 526.
- Gadsden, Philip H.: on credit situation, 6; on effect of readjustment in rate of return, 499.
- Gauges: influence of, 63.
- George, W. D.: on control of service, 88; on zone system, 240; on abandonment of unprofitable lines, and increased fares, 325-326; on commission regulation, 425.
- Georgia Railway & Power Co.: 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; wage rates, 533, Note 1 of Ch. XLIII.
- Glasgow municipal tramways: amortization policy, 53; financial condition, 643.
- "Going concern": defined by A. E. R. A. Committee on Valuation, 350.
- "Going value": (See also Created value, Development costs, Going concern); discussion, 735-736.
- Gompers, Samuel: on compulsory arbitration, 559.
- Grand Rapids, Mich.: 1917-1919 comparison of fares and traffic, 188, 206, of fares and revenues, 194, 209; wage rates, 533, Note 1 of Ch. XLIII.
- Great Britain: zone fares in, 219, 221, (W. Jackson) 241-242; bus operation in (W. Jackson), 289; comparison of track mileage and interurban development in, and in United States, 322, (L. S. Storrs) 324; extent of public ownership in, 641; comments on W. L. Madgen's paper on tramway situation in, 642-643.
- Guaranties: (See also Subsidies); of bonds (F. H. Sisson), 134-135; on Eastern Massachusetts, 472; effect of public, on credit (L. R. Nash), 316-317; of return on capital (Boston Elevated), 466-467.
- Halifax, N. S.: wage rates, 533, Note 1 of Ch. XLIII.
- Harlan, Justice: on valuation (Smyth vs. Ames), 380.
- Harrisburg, Pa.: 1917-1919 comparison of fares and traffic, 188, 206, of fares and revenues, 194, 209.
- Hartford, Conn.: (See also Connecticut); wage rates, 532, Note 1 of Ch. XLIII.
- Haynes, Paul P.: resolution on valuation (National Association of Railway and Utilities Commissioners), 380-381.
- Head, W. B.: on jitney competition (Dallas), 108-109; on jitney regulation in Dallas, 295; on regulation in Texas, 429; on fare limits, 501.
- Henry, Charles L.: on jitney competition, Pacific Electric Co., 100; on motor truck competition, 298; on Indiana Public Service Commission, 421.
- Heulings, William H.: on financing purchases and standardizing equipment, 126.
- Higgins, Richard T.: on overbuilding in Connecticut, 65; on remedies, 136; advocates paving and taxation relief, 257; on repeal of public burdens, 291; on service at cost, 490.
- Historical cost method of valuation: (See Valuation).
- Hoboken, N. J.: (See also Public Service Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Holding companies: Ch. XIV, 67-74.
- Holmes, Justice: quoted on labor organization (Vegeahn vs. Guntner), 546.
- Holyoke, Mass.: zone system, 227.
- Hornell Traction Company: percentage increases of fares and revenues, 179.
- Houston, Texas: 1917-1919 traffic, 188.
- Howell, Horace L.: connection with Public Service Railway valuation, 687, 688.
- Hudson & Manhattan Railroad Company: 1918-1919 taxes, 86; 1917-1919 comparison of fare and traffic, 183, of fare and revenue, 189.

- Illinois: 1913 municipal ownership law, provision as to self-support of utility, Note 3 of Ch. XXXIV.
- Illinois Public Utilities Commission: valuation of Chicago Surface Lines (1917 and 1920), 727, 728; recent changes in organization, Note 2 of Ch. XL.
- Incentive: under Jenks bill, 463; under service at cost, 486-487, 741-742; M. R. Maltbie on, 487; L. R. Nash on, 500-501; E. V. Babcock on, 501; C. K. Robinson on, 502-503; service vs. profits, Ch. XLIX, 621-622.
- Profits as: 151; under service at cost, 402-404; in Cleveland, (N. D. Baker) 448-449, (F. Sanders) 453.
- Income: (See Earnings).
- Indebtedness:
municipal: for cities over 30,000, 513, 514.
state: amount of, 513.
- Indiana Public Service Commission: on Indianapolis Traction & Terminal Co., 334-335; commented on by C. L. Henry, 421.
- Indianapolis Traction & Terminal Company: 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; comparison of revenues with those of Philadelphia Rapid Transit Co., 302; orders of Indiana Commission and reports of public directors, 332-335; service at cost suggested for, 490; 1918 valuation, 730; recent fare changes, Note 1 of Ch. XV; service at cost rejected, Note 6 of Ch. XLI.
- Industrial Conference: on continuity of service, 551-552.
- Ingram, Frederick F.: advocates low fare and land value tax, 309-310.
- Interborough Consolidated Corporation: formation of, 415-416.
- Interborough Metropolitan Company: formation of, 416; relation to subway contracts, 416.
- Interborough Rapid Transit Company: (See also New York City); 1918-1919 taxes, 86; 1917-1919 comparison of fare and traffic, 183, of fare and revenues, 189; offers made, 415; preferential, 416-417; 1919 strike data, 531.
- Interest during construction: Interstate Commerce Commission on (Texas-Midland Report), 379.
- International Railway Company: (See Buffalo, N. Y.)
- Interstate Commerce Commission: importance of valuation rulings of, 375-376; valuation of Texas-Midland Railroad, 376-379; overheads in Texas-Midland case, 733; treatment of replacements, 747.
- Interurban lines: mileage of, 2; effect of jitney competition (C. L. Henry), 100; one-man cars not adapted to (C. W. Kellogg), 273; motor truck competition (C. L. Henry), 298; development in Great Britain and United States (L. S. Storrs), 324-325; fare situation in Indiana (C. L. Henry), 421.
- Investment Bankers Association: report of committee on public service securities, 29, Note 1 of Ch. VI.
- Investments: (See also Capital, Capitalization, Securities); nature of (D. F. Wilcox), 149-151.
- Jackson, Dugald C.: financial difficulties of companies antedating war, 127; on zone systems, 237, 239-240; on jitney competition and regulation, 296-298; on service at cost, 491-493.
- Jackson, Walter: on jitney competition, 110-112, 289; on zone system, 241-242; on economies in power, 268-269; on bus operation in Great Britain, 289.
- Jackson, Mich.: 1917-1919 comparison of fares and traffic, 187, 207, of fares and revenues, 193, 210; wage rates, 533, Note 1 of Ch. II, Note 1 of Ch. XLIII.
- Jenks service-at-cost bill: rate of return, 401; chief features of, 463-464; introduction, and "self-sustaining" feature, 320, Note 4 of Ch. XXXIV.
- Jersey City, N. J.: (See also Public Service Railway Company); wage rates, 532, Note 1 of Ch. XLIII.
- Jitneys: effect of, on credit, Ch. XX, 99-112; competition of, relation to fares (T. Conway), 173; control of, Ch. XXXII, 286-299; Public Service Railway Co.'s attack upon, 666-673, Note 4 of Appendix A; general relation of, to street railways, 721-722; beginning of state regulation of, in New Jersey, Note 4 of Appendix A; statistics of, in Newark, Note 5 of Appendix A.
- Johnson, Tom L.: part taken in Cleveland valuation (N. D. Baker), 446-447; campaign methods of (N. D. Baker), 449-450.
- Jones, Stiles P.: on overcapitalization, 42, 591-593.
- Joyce, Coleman J.: on operating improvements in Philadelphia, 265-267; on reduction of accident expense in Philadelphia, 270; on fire insurance policy of Philadelphia Rapid Transit Co., 270; on operating economies in Philadelphia, 270-271; reads Mr. Mitten's statement on Philadelphia plan, 301.
- Kalamazoo, Mich.: 1917-1919 comparison of fares and traffic, 187, 205, of fares and revenues, 193, 208; wage rates, 533, Note 1 of Ch. II, Note 1 of Ch. XLIII.
- Kansas City Railways Co.: capitalization, 45; 1917-1919 comparison of fares and traffic, 185, 205, 206, of fares and revenues, 191, 208, 209; 1919 strike data, 531; valuation, (1913), 727, 728, (1920), 730.

- Kellogg, Charles W.: (See also American Electric Railway Association, Committee on One-Man Car Operation); on one-man cars, 272-273, 275-276, 278, (for interurban lines) 273-274.
- Knoxville water case: treatment of accrued depreciation, 746.
- Kutz, Charles W.: on public ownership, 138; on zone system, 241; on paving requirements and municipal ownership of roadbed, 256.
- Labor: (See also Amalgamated Association, Wages, Strikes, Right to strike, Cost of living); total employes (1917), 4; fundamental importance of, Ch. III, 9-14; interrelation with credit, and public relations of, Ch. IV, 15; increasing demands of, Ch. XXI, 113-115; relative increase in cost of, 117; attitude of (T. Conway), 154-155; cooperative relations, Ch. XXXIII, 300-302; relation of city to, under Cleveland plan (F. Sanders), 452-453; general discussion of, Ch. XLIII, 530-536; recognition of public relations of, Ch. XLIV, 537-540; participation in management, Ch. XLVII, 598-617; employes as civil servants, Ch. XLVIII, 618-620; wages, Jan. 1, 1921, Note 1 of Ch. XLIII.
- Lambert, Miles B.: on increased costs of materials, 125-126.
- Lansing, Mich.: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 206; wage rates, 533, Note 1 of Ch. II, Note 1 of Ch. XLIII.
- Lapp, John A.: report of D. F. Wilcox on Denver situation transmitted to, 717.
- Lauck, W. Jett: on recognition of union, 567-568; on living wage, 569-570, 579, 583, 586-588; on eight-hour day, 583; on increased productivity, 588-589; on early financial mismanagement, 593-595; on Philadelphia plan, 598-599.
- Brief for the Amalgamated Association: defends wage increases, 11-12; on wage theory, 13-14; on overcapitalization, 39-40, 41; on financial exploitation, 71-72; on relation of wages to revenues, 114-115; on importance of public interest, 564; on rights of capital, 564; on employes' interest in rehabilitation, 565; on recognition of union, 566-567.
- Lawrence, Mass.: (See also Eastern Massachusetts Street Railway Company); wage rates, 532, Note 1 of Ch. XLIII.
- Layovers: reduction of (J. A. Beeler), 265.
- Lehigh Valley Transit Co.: 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; wages, Note 1 of Ch. XLIII.
- Lincoln Gas and Electric Company vs. Lincoln: treatment of rate of return by Justice Pitney, 386.
- Living wage: W. J. Lauck on, 568-569; R. C. Chapin on, 569-570; Lauck & Sydenstriker on, 570; W. F. Ogburn on, 570-579.
- London, Ont.: wage rates, 533, Note 1 of Ch. XLIII.
- Loring, Homer: on credit situation, 8; on Massachusetts capitalization policy, 39-40; on jitney competition, 103-104; on public operation and private ownership, 136-137; on effect of fare increases, 176-178; on one-man cars, 276; on subsidies for Eastern Massachusetts lines, and suggested "fifty-fifty" bill, 312-313; on rehabilitation of Eastern Massachusetts property, 474; on effect of fare increases on Eastern Massachusetts lines, 475; on credit needs, 476.
- Los Angeles: jitney competition in, 99-100; 1917-1919 comparison of fares and traffic, 184, 205, 206, of fares and revenues, 190, 208, 209; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; 1913 valuation, 728; recent fare increase, Note 5 of Ch. XL.
- Louisville, Ky.: 1917 traffic estimate, 186; wage rates, 533.
- Lowell, Mass.: (See also Eastern Massachusetts Street Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Lynn, Mass.: (See also Eastern Massachusetts Street Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- MacFarland, Grenville S.: on public ownership, 146; on Boston and Cleveland plans, 469-470.
- Madgen, William L.: paper on British traction situation, commented on, 642-643.
- Magnitude of industry: (See also Capital, Labor, Mileage, Population served, Revenues, Taxation, Traffic); Bradlee, Henry G., on, 3; increase of, as affecting credit, 16-17.
- Mahoning & Shenango Railway & Light Co.: (See Youngstown, Ohio).
- Maintenance: (See also Depreciation); neglect of ordinary, Ch. XII, 55-60; conserving property by proper (J. B. Eastman), 271; relation of, to service-at-cost plans, 436-437; under Montreal contract, 459-460; on Boston Elevated (F. J. McLeod), 468-469.
- Maltbie, Milo R.: on overcapitalization, 41; on neglect of maintenance, 60; on special assessments, 317-318, (under private ownership) 318; on incentive, 487; on service at cost, 489-490; connection with Public Service Railway valuation, 702.
- Management: inefficient (M. L. Cooke), 128; efficiency in, (J. A. Beeler) 137-138, Ch. XXXI, 260-285; cooperation with labor, Ch. XXXIII, 300-302; labor's participation in, 595-596, Ch. XLVII, 598-617.
- Manchester, England: financial policy in, 642-643.

- Massachusetts: policy in regard to capitalization, 39-40; overbuilding, 64-65; holding company abuses, 67-69; regulation of capitalization in, (T. N. McCarter) 92-93, (J. B. Eastman) 93; automobile competition in (Legislative Commission), 100-101; jitney competition (L. S. Storrs), 101-103; public initiative and efficiency (E. N. Foss), 144; constitutional obstacles to public subsidies (Public Service Commission), 306-307; taxation to support electric railways, 308-309; public subsidies in (Boston Elevated and Eastern Massachusetts), 311-314; capitalization per mile of track, compared with rest of country, 331; Public Service Commission valuation formula, 373-374; regulation in, 406-407; service at cost in, 464-478.
- Massachusetts Public Service Commission: on constitutional obstacles to subsidies, 306-307; on taxation to support street railways, 308-309; valuation formula of, 373; Middlesex and Boston report, 373-374; Bay State rate case decision, 374-375; Bay State valuation, 728-729.
- Massachusetts Special Street Railway Commission: duties of, 311; recommends amendment of Boston Elevated act, 311-312; recommends increased public subsidies, 313; proposes plan of public control, with subsidies, 313-314; on public ownership, 508; minority statement, 508-509; on compulsory arbitration, 544-545; proposes arbitration bill, 544-545; objections to latter, 545-549.
- Materials, cost of: increases in, (W. C. Bliss) 11, (B. W. Warren) 13, (J. G. Barry) 124-125, (M. B. Lambert) 125-126; relation to other increases in cost, 117.
- McCarter, Thomas N.: on regulation of capitalization in Massachusetts, 92-93; statistics on decreased values of Public Service Railway and Public Service Corporation securities, 122; on 9-cent fare in New Jersey, 668-669; on emergency relief, 684; personal interest in valuation results, 696-697.
- McElroy, J. M.: referred to, on financial policy of Manchester, England, 642-643.
- McLeod, Frederick J.: on credit situation, 8; on Boston Elevated depreciation and maintenance, 57-58; on competitive overbuilding in Massachusetts, 64-65; on holding company abuses in Massachusetts, 69; on public ownership, 137; on effect of fare increases, 175-176; on Boston Elevated, 468-469.
- Memphis, Tenn.: 1917-1919 comparison of fares and traffic, 186, 205, of fares and revenues, 192, 208; wage rates, 533, Note 1 of Ch. XI,III; service at cost for, Note 1 of Ch. XI,I.
- Merchants Association of New York: on public ownership, 142-143; proposes bill for continuity of service, 553, 555-557.
- Metropolitan Street Railway Company: overcapitalization of (G. E. Tripp), 38, 44. "Mexican dollar" theory, 691, 693-694.
- Michigan Railway Co.: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 209; succeeded by Michigan United Railways Co., Note 1 of Ch. II.
- Michigan United Railways Co.: recent wage changes, Note 1 of Ch. II.
- Middlesex & Boston Report (Massachusetts Public Service Commission): 373-374.
- Mileage: 1917 total, 1; compared with steam railroads, 1; classification, 2; increase over 1902, 16.
- Miller, Nathan L.: New York City Transit Commission fostered by, Note 3 of Ch. XXXIV, Notes 3 and 4 of Ch. XL.
- Milner service-at-cost plan: (See Toledo).
- Milwaukee Electric Railway & Light Company: depreciation (J. D. Mortimer), 49-50; overbuilding (J. D. Mortimer), 62; percentage increases of fares and revenues, 178-179; 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; central zone system, 222-223; experiences with commission regulation, 407-411; 1919 strike data, 531; cooperative plan, 611-616; 1920 valuation, 729, 730, 736; recent fare changes, Note 1 of Ch. XXIX.
- Minneapolis, Minn.: (See Twin City Rapid Transit Co.)
- Minnesota: "Home rule" in, 413; deviations from home rule, Note 1 of Ch. XL.
- Mitten, Thomas E.: (See also Joyce, Coleman J.); on service at cost, 491; on extravagance of employes, 579; on Philadelphia overcapitalization, 601-602; on Cooperative Plan, 602-605, 609-610.
- Mohler, Charles K.: analysis of certain features of Public Service Railway valuation, 703.
- Money: effect of decreased value on new capital requirements, 29-30; decreased value of, Ch. XXII, 116-128, (G. E. Tripp) 363, effect on investors, 118-119, 390-391, (G. E. Tripp) 364-366, (I. Fisher) 120-121, 388-390, 692-693; cost of securing, (Massachusetts Public Service Commission in Bay State case) 375, (Interstate Commerce Commission in Texas-Midland Report) 378-379.
- Monopoly: relation to credit, 16; private, necessity of regulation over, 673.
- Montreal, Quebec: fare system, and effect on traffic and revenue, 215-216; comparison with Toronto, 217; franchise taxation, 251; service-at-cost contract, 456-463; comments on plan (C. K. Robinson), 502; wage rates, 533, Note 1 of Ch. XI,III.
- Mortimer, James D.: on depreciation, 49-50, 55-56; on Cleveland plan, 50-52, 55-56, 455;

on Boston depreciation policy, 56; on overbuilding (Milwaukee), 62; on use of police power in Wisconsin, 90-91; on limitations of fare increases, 172; on jitney competition in Kenosha, 295-296; on public guaranty in Kenosha, 316; on operating economies and abandonment of unprofitable lines, 326; on "watered stock," 331-332; on return on capital, 395; on regulation in Wisconsin, 407-409, 411-412; on service at cost, 491; on Philadelphia plan, 599-601; on Milwaukee cooperative plan, 611-615; on Wisconsin Board of Conciliation, 615.

Note, Carl H.: on jitney competition, 107; on zone system, 240-241; on "knocking down" (Indiana), 300-301; on overcapitalization (Indiana), 332-333; on service at cost, 490.

Motor trucks: competition of, for interurban freight (C. L. Henry), 298.

Municipal ownership: (See Public ownership and operation).

Murphine, Thomas F.: on reasons for Seattle railway purchase, 520; on labor conditions in Seattle, 585.

Nash, Luther R.: on franchise taxes, 250; on effect of public guaranties on credit, 316; on regulation, 433; on service at cost, 493-495, 496-499, 500-501.

Nashville, Tenn.: 1917-1919 comparison of fares and traffic, 187, 205, of fares and revenues, 193, 208; 1919 strike data, 531; wage rates, 533, Note 1 of Ch. XLIII.

National Association of Railway and Utilities Commissioners: resolution on valuation (P. P. Haynes), 380-381.

National Consumers League: on compulsory arbitration, 557-559.

National War Labor Board: quoted on credit situation, 6; relation to Federal Commission, 6; on wages, 9-10; dealings with wage disputes, 530, 534; dealings with strikes, 539.

New Bedford, Mass.: (See Union Street Railway Company).

New Brunswick plan: 471.

New Haven, Conn.: (See also Connecticut); wage rates, 532, Note 1 of Ch. XLIII.

New Jersey: criticism of zone plan in, by Associated Municipalities, 231; Local Transportation Issues in, Appendix A, 659-716; Street Railway Valuation Act amended, Note 2 of Appendix A.

New Jersey Board of Public Utility Commissioners: on zone fares, 220; on zone system for Public Service Railway, 229-230, 231-232; rate of return allowed in Passaic gas case, 387; criticised by C. L. S. Tingley, 423; decision in Public Service Railway case, Note 2 of Ch. XXVII, Note 7 of Appendix A.

New Orleans, La.: effect of fare increases in (J. K. Newman), 171; 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; taxation (J. K. Newman), 250; finances (J. K. Newman), 338; wage rates, 532, Note 1 of Ch. XLIII.

New York City: increase in traffic, 3; taxation, 85-86; operating ratios, 123; 1917-1919 comparison of fares and traffic, 183, 199, 205, of fares and revenues, 189, 208; comparison of fares and traffic with Boston Elevated, 198, 200; with Public Service Railway Company, 200; explanation of average fare figure, 204; use of motor buses to compel restoration of 5-cent fare, 287-288; indirect subsidies in, 318-320; criticism of Public Service Commission in (J. L. Quackenbush), 413-417; 1919 strike data, 531; wage rates (Brooklyn, Staten Island), 532, Note 1 of Ch. XLIII; results of year ending June 30, 1920, Note 2 of Ch. XVI; subway policy affected by 1921 law, Note 3 of Ch. XXXIV; changes in public service commission law affecting, Notes 3 and 4 of Ch. XL.

New York Railways Company: 1918-1919 taxes, 86; 1917-1919 comparison of fare and traffic, 183, of fare and revenues, 189; receivership, 414, 416.

New York Public Service Commission, First District: proposes bill for continuity of service, 553-555, 557-560; changes in law affecting, Notes 3 and 4 of Ch. XL.

New York State: (See also Jenks bill); constitutional obstacles to public subsidies, 306; plans for continuity of service, 552-560.

New York State Railways: 1917-1919 comparison of fares and traffic, 184, 206, of fares and revenues, 190, 209; wage rates, 532, Note 1 of Ch. XLIII.

Newark, N. J.: (See also Public Service Railway Co.); wage rates, 532, Note 1 of Ch. XLIII; jitney traffic in, 666-668.

Newman, J. K.: on overcapitalization, 38; on loss of credit, municipal ownership and service at cost, 133-134; on effect of fare increases, 171; on taxation, 249-250; on problems of reorganization, 337-338; on plan of reorganization, 338-340; on theory of valuation, 361; on valuation, 370; on rate of return, 401.

Niagara Falls, N. Y.: (See International Railway Co.)

Nixon, Lewis: on taxes and paving requirements, 252-253.

Norfolk, Va.: (See also Virginia Railway & Power Co.); wage rates, 532, Note 1 of Ch. XLIII.

Northern Ohio Traction & Light Co.: 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 191, 209; wage rates, 533, Note 1 of Ch. XLIII.

- Northern Texas Traction Co.: (See Fort Worth, Texas).
- Oakland, Calif.: (See also San Francisco-Oakland Terminal Railways Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Oakwood Street Railway Co.: (See Dayton, Ohio).
- Obsolescence: G. E. Tripp, Commissioner Beall, etc., on, 151-152; M. E. Cooley on, 357-358.
- Oghurn, William F.: on living wage, 570-579.
- Omaha & Council Bluffs Street Railway Co.: 1917-1919 comparison of fares and traffic, 186, 205, of fares and revenues, 192, 208; wage rates, 533, Note 1 of Ch. XLIII.
- One-man cars: policy of Stone & Webster, 196; C. W. Kellogg on, 272-273; A. E. R. A. Committee on One-Man Car Operation on, 272-273; general discussion of (Kellogg, Tripp, Tingley and Loring quoted), 273-281; in Detroit, Note 4 of Ch. XIII.
- Operating ratios: general statistics, 122-123; in New York City, 123; in Cleveland, 124.
- Operation, economies in: (See also One-man cars, Power, economies in); Ch. XXXI, 260-285; J. D. Mortimer on, 326; J. A. Beeler on, 326; relation to service-at-cost plan, 435-437.
- Oregon Public Service Commission: Portland valuation, 727.
- "Organization expense": defined by A. E. R. A. Committee on Valuation, 349.
- Ottawa, Ont.: wage rates, 533, Note 1 of Ch. XLIII.
- Overbuilding: Ch. XIII, 61-66.
- Overcapitalization: (See also Watered stock, Capitalization, Holding companies, Banker control); effect on credit, Ch. IX, 36-42; amortization of, Ch. X, 43-45; in Philadelphia, (W. S. Twining) 283-284, (T. E. Mitten) 601-602; J. D. Mortimer on, 331-332; F. H. Sisson on, 332; in Indiana (C. H. Mote), 332-333; of Indianapolis Traction & Terminal Co. (A. F. Potts), 333-334; Indiana Public Service Commission on, 334-335; S. P. Jones on, 591-593; W. J. Lauck on, 593-595; an issue in New Jersey, 671-672, 710.
- Overhead charges: treatment by A. E. R. A. Committee on Valuation, 349-350; M. E. Cooley on, 356; treatment by Massachusetts Public Service Commission in Bay State rate case, 374-375, 733; treatment by Interstate Commerce Commission in Texas-Midland case, 376-379, 733; treatment by Wisconsin Railroad Commission, 733; in Des Moines Gas case, 733; in Denver Union Water case, 733.
- Owosso (and Corunna), Mich.: 1917-1919 comparison of fares and traffic, 187, 207, of fares and revenues, 193, 210.
- Pacific Electric Company: (See Los Angeles, Calif.)
- Pardee, John H.: on need of change in public relations, 155-156.
- Passaic gas case: rate of return allowed (N. J. Board of Public Utility Commissioners), 387; rate of return discussed (Justice Swayze), 387-388.
- Paterson, N. J.: (See also Public Service Railway Co.); wage rates, 532, Note 1 of Ch. XLIII.
- Paving: (See also Franchise obligations); C. J. Bullock on, 82; San Francisco-Oakland Terminal Railways Co. (W. E. Creed), 84; relief from (H. J. Pierce), 132; D. F. Wilcox on, 246-247; J. K. Newman on, 249-250; treatment of, in Cincinnati (W. C. Culkins), 250-251; in Cleveland, 252; Lewis Nixon on, 252-253; general discussion of charges, 253; L. S. Storrs on, 253-254; R. W. Babson on, 254-255; G. C. Cummin on, 255-256; C. W. Kutz on, 256; J. B. Eastman on, 256; F. H. Sisson on, 257; T. Conway on, 257; relief from (R. T. Higgins), 291.
- Pawtucket, R. I.: (See Rhode Island Co.)
- Pennsylvania Public Service Commission: report on Pittsburgh Railways Co., 371; commented on, by C. L. S. Tingley, 423; procedure commented on by T. Conway, 423-424; commented on by W. D. George, 425.
- Pennsylvania Public Service Company Law: provisions of, 371-372; effect of, in Pittsburgh valuation, 372.
- People's Railway Co.: (See Dayton, Ohio).
- Peters, A. J.: on wage rates for Boston Elevated, 581-582.
- Philadelphia Rapid Transit Company: 1917-1919 comparison of fares and traffic, 183, 199, 205, of fares and revenues, 189, 208; comparison of fares and traffic with Boston Elevated, 198; with Public Service Railway, 200-201; reduction of accident expense (C. J. Joyce), 270; fire insurance policy (C. J. Joyce), 270; operating economies (C. J. Joyce), 270-271; city's attitude toward (W. S. Twining), 282-285; Philadelphia plan (T. E. Mitten), 301; comparison of revenues with those of Indianapolis Traction & Terminal Co., 301-302; Co-operative Plan, 598-611; recent wage changes, Note 1 of Ch. 11; recent fare increase, Note 1 of Ch. XV.
- Pierce, Henry J.: on continuing 5-cent fare, 132-133.
- Pingree, Hazen S.: pioneering efforts of, 682.
- Pitney, Justice: treatment of rate of return in Lincoln Gas & Electric Light Co. vs. Lincoln, 386; quoted on labor contract rights (Coppage vs. Kansas), 545.
- Pittsburgh, Pa.: 1917-1919 comparison of fares and traffic, 184, 199, 207, of fares and revenues, 190, 210; discussion of fares and

- traffic, 202; zone system, 223; fare system and effect of zoning (W. D. George), 240; report of Engineers Valuation Board, 368-371, 706; report of Pennsylvania Public Service Commission, 371; public attitude in (C. A. Fagan), 425; public regulation in (C. A. Fagan), 425; regulation in (E. V. Babcock), 429-430; capitalization in, 512; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII.
- Plumb Plan: Amalgamated Association's demands opposed to, 563; commented on, 616-617.
- Police power: (See also Service, Regulation); use in bettering service, Ch. XVII, 88-91.
- "Politics" under public ownership: J. K. Newman on, 133; E. N. Foss on, 144; F. B. deBerard on, 144-145; S. R. Bertron on, Note 2 of Ch. XXIII.
- Population served: 4.
- Portland, Maine: (See Cumberland County Power & Light Co.).
- Portland, Ore.: 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; wage rates, 533, Note 1 of Ch. XLIII; valuation per mile, 727, 730.
- Potts, Alfred F.: report on Indianapolis Traction & Terminal Co., 333-334.
- Power, economies in: (See also Operation, economies in); J. A. Beeler on, 268; W. Jackson on, 268-269; H. G. Bradlee on, 269.
- Productivity, increased: W. J. Lauck on, 588; A. Sturgis on, 590-591; as determining wages (J. D. Mortimer), 612-613.
- Profits: past (W. H. Taft), 37; as controlling motive, 151, 722; D. F. Wilcox on, 152-153; early, from 5-cent fare, 328-329.
- "Promotion expense": defined by A. E. R. A. Committee on Valuation, 348; M. E. Cooley on, 355.
- Promoters' profits: treatment by Massachusetts Public Service Commission (Bay State Case), 375.
- Providence, R. I.: (See also Rhode Island Co.); 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; 1919-1920 results under zone plan, Note 2 of Ch. XXIX.
- Public, the: two conceptions of the term, 560-561.
- Public hostility: G. E. Tripp on, 37-38; F. H. Sisson on, 38, 154; W. H. Taft on, 154.
- Public operation with private ownership: H. Loring on, 136-137; F. J. McLeod on, 137; Boston Elevated, 464-471; Eastern Massachusetts Street Railway Co., 471-476.
- Public ownership and operation: G. E. Tripp on, 129; H. C. Clark on, 131-132; H. J. Pierce on, 132-133; J. K. Newman on, 133; S. R. Bertron on, 135-136, Note 2 of Ch. XXIII; R. T. Higgins on, 136; H. Loring on, 137; F. J. McLeod on, 137; J. A. Beeler on, 138; C. W. Kutz on, 138; H. L. Stuart on, 139; general discussion, Ch. XXIV, 140-148; of roadbed (C. W. Kutz), 256; taxation under, in Detroit, 259; fare provisions under, in Detroit, 310-311; T. Conway on, 314; resemblance of Cleveland plan to (N. D. Baker), 451; F. Sanders on, 453; R. W. Babson on, 470; use of public credit, 506-527; employ relations, Ch. XLV, 611, 618-620; the ultimate solution, Ch. LIV, 635-643; favored in dissenting report of Massachusetts Special Commission, Note 1 of Ch. XX; Detroit program, Note 2 of Ch. XXVIII; Seattle experience, Note 4 of Ch. XLII.
- Public ownership with private operation: C. W. Kutz on, 138; of roadbed (C. W. Kutz), 256; E. V. Babcock and C. K. Robinson on, 507.
- Public relations: (See also Cooperation); significance of franchise rights and of companies' appeal to Federal Commission, 4-5; interrelation with credit and labor, Ch. IV, 15; need of change in (J. H. Pardee), 155-156.
- Public Service Commissions: (See also Police power, Service, Regulation); H. L. Stuart on, 93; R. Schaddelee on, 97-98, 291-292.
- Public Service Railway Company (New Jersey): current replacement costs, 32-33; depreciation policy, 53; depreciation and dividend policy (Utilities Commission), 59; decrease in values of securities (T. N. McCarter), 122; 1917-1919 comparison of fares and traffic, 183, 199, 207, of fares and revenues, 189, 210; comparison of fares and traffic with Philadelphia, 200-201, with New York City, 200-201; zone system, 229-232; comparison with Cleveland Railway, 252; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; general relation to local transportation issues in New Jersey, Appendix A, 659-716; recent wage changes, Note 1 of Ch. II; application for 10-cent fare, Note 2 of Ch. XXVII, Note 7 of Appendix A; failure of attack on jitneys, Note 4 of Appendix A; new wage agreement effective August 1, 1921, Note 6 of Appendix A; valuation of, by Ford, Bacon & Davis, Note 7 of Appendix A.
- Puget Sound Traction, Light & Power Company: (See also Seattle, Wash.); purchase by Seattle, 517-520.
- Purdy, Lawson: on special assessments, 528.
- Quackenbush, James L.: on public service commissions, 88-89, 413-417; on public ownership, 510-511.
- Railroad Valuation Act of March 1, 1913: terms of, 376.

- Read, William T.: letter of D. F. Wilcox to, *re* New Jersey situation, 661-663; action of, as member of Valuation Commission, Note 3 of Appendix A.
- "Readiness-to-serve": (See Standby charge).
- Receiverships: relation of wage increases to (F. H. Sisson), 10; statistics on (J. W. Welsh), 64; A. E. R. A. on miles of track in receivers' hands, 327; Secretaries of Commerce and Labor, on companies in receivers' hands, 327; when advisable, 723-724.
- Record, George L.: connection with Public Service Railway case, 664.
- Refunding: difficulty of, 19-20.
- Regulation: (See also Jitneys); origin and significance of, 4-5, 677; relation of over-capitalization to, 36-37; of capitalization, Ch. XVIII, 92-96; abandonment of (R. W. Babson), 104-106; failure of (G. E. Tripp), 129; criticism of commission (R. Schaddelee), 291-292; state vs. local, 293-294; of jitneys, 288, (R. W. Babson) 292-293, (J. A. Beeler) 292, (L. S. Storrs) 294-295, in Dallas (W. B. Head) 295, (D. C. Jackson) 297-298; of motor trucks (C. L. Henry), 298; state, unrestricted, Ch. XL, 405-433; commission, compared with service at cost, 435; local, in Cleveland, 443-444; abandonment of, Ch. LI, 624-625; inadequacy of, Ch. LII, 626-630, 677-678; necessity of, in case of private monopoly, 673; endangered by financial distress of companies, 674-675.
- Rehabilitation: necessity for, 33-34; of Boston Elevated, 467; of Eastern Massachusetts property (H. Loring), 474.
- Relief: (See Fare increases, Remedies).
- Remedies: (See also Fare increases, Subsidies); abandonment of regulation, (R. W. Babson) 104-106, Ch. LI, 624-625; for credit situation, Ch. XXIII, 129-139, 157; suggested, 343-344; Paul Shoup on, 421; the four choices, Ch. L, 623; commission regulation, Ch. LII, 626-630; service at cost, Ch. LIII, 631-634; public ownership and operation, Ch. LIV, 635-643; recommendations in Denver report, 725.
- Reorganization: Ch. XXXVI, 327-342; as remedy for financial embarrassment (W. H. Taft), 324.
- Replacements: Public Service Railway, 32-33; Cleveland Railway, 33, 394, 444; J. D. Mortimer on, 411; Montreal policy, 459-460.
- Reproduction cost method of valuation: (See Valuation).
- Return on capital: methods of increasing, Ch. XXVI, 157-159; rate of, general discussion, Ch. XXXIX, 385-404; J. D. Mortimer on, 412-413; under service-at-cost plans, 438-439, 740; in Cleveland, 440-441; in Montreal, 460-461; under Jenks bill, 464; on Boston Elevated, 465-466; on Eastern Massachusetts, 473; L. R. Nash on, 498-499; variable rate of (T. L. Sidlo), 499; flexibility of, 499-500, (L. R. Nash) 500; relation between high rate and market value of stocks, Denver, 731.
- Revenues: total for 1917, 1; compared with steam railroads, 1; per passenger (1917), 4; increase over 1902, 17; collected in advance, 17-18; relation of wages to (W. J. Lauck), 114-115; effect of increased fares on, Ch. XXVIII, 165-217; loss of, through dishonesty and carelessness of employes (C. H. Mote), 300.
- Richmond, Va.: (See also Virginia Railway & Power Company); wage rates, 532, Note 1 of Ch. XLIII.
- Rhode Island Company: Z. W. Bliss on taxation, 83; W. C. Bliss on jitney competition, 106-107; data on 1917-1919 fares, traffic and revenues, 185, 191; meaning of fare and revenue statistics, 196-197; zone system (W. C. Bliss), 223-226; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII.
- Riding habit: significance of, 214.
- Right to strike: D. F. Wilcox on, 153-154; limitation of, Ch. XLV, 541-563.
- Robinson, Charles K.: on service at cost, 501-503; on public ownership with private operation, 507; on Pittsburgh capitalization, 512.
- Rochester, N. Y.: (See also New York State Railways); wage rates, 532, Note 1 of Ch. XLIII; service at cost for, Note 1 of Ch. XLI.
- Routing: improvement of (J. A. Beeler), 265; in Philadelphia (C. J. Joyce), 265-266; saving in Cincinnati, 267.
- Ryan, John A.: connection with Denver investigation, 719.
- St. Louis, Mo.: 1917-1919 comparison of fares and traffic, 184, 206, of fares and revenues, 189, 209; wage rates, 532, Note 1 of Ch. XLIII.
- St. Paul, Minn.: (See Twin City Rapid Transit Co.)
- Salt Lake City, Utah: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 209; wage rates, 533, Note 1 of Ch. XLIII.
- San Antonio, Texas: 1917-1919 comparison of fares and traffic, 188, 205, of fares and revenues, 194, 208; wage rates, 533, Note 1 of Ch. XLIII.
- San Diego, Calif.: adopts zone system, Note 5 of Ch. XL.
- San Francisco, Calif.: depreciation policy, Municipal Railway, 53-54, 746; 1917-1919 comparison of fares and traffic, 184, 205, of fares and revenues, 190, 208; results of municipal operation, 524; wage rates, 532, Note 1 of

- Ch. XLIII; 1916-1917 maintenance and depreciation (Municipal Railway), 744.
- San Francisco-Oakland Terminal Railways Company: taxes and franchise obligations (W. E. Creed), 83-85; 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; wage rates, 532, Note 1 of Ch. XLIII; 6-cent fare, Note 5 of Ch. XL.
- Sanders, Fielder: on Cleveland plan, 452-453; on municipal ownership, 453.
- Schaddelee, Richard: on holding companies, 70; on public service commissions, 97-98; on jitney competition, 110, 291-292; on commission regulation, 291, 421-423; on rate of return, 400.
- Schedules: improvement of: (J. A. Beeler), 264-265; in Philadelphia (C. J. Joyce), 266-267, of working time: Detroit, 584; Cleveland, 584-585; method of determining under Philadelphia plan, 604-605; statistics of, Philadelphia and Detroit, 610.
- Schenectady: 1917-1919 comparison of fares and traffic, Schenectady Railway, 188, (city lines) 205, (interurban) 206, of fares and revenues, 194, (city lines) 208, (interurban) 209; wage rates, 533, Note 1 of Ch. XLIII.
- Schreiber, Martin: connection with Public Service Railway valuation, 687, 689.
- Scranton Railway Company: dividend and maintenance policy (C. L. S. Tingley), 59-60; 1917-1919 comparison of fares and traffic, 187, 207, of fares and revenues, 193, 210; wage rates, 533, Note 1 of Ch. XLIII.
- Seattle, Wash.: 1917-1919 comparison of fares and traffic, 185, 205, of fares and revenues, 191, 208; method of acquiring railway, 517-520; results of railway operation, 520-524; 1919 strike data, 531; wage rates, 532, Note 1 of Ch. XLIII; purchase price of railway, 729, 730; fare increase, Note 1 of Ch. XV, Note 4 of Ch. XLII; Councilman Erickson's policy with respect to street railway purchase and fares, Note 4 of Ch. XLII; Mayor Caldwell's investigation of street railway purchase, Note 4 of Ch. XLII.
- Second Avenue Railway Company (New York City): 1918-1919 taxes, 86; receivership (J. L. Quackenbush), 414.
- Secretary of Commerce and Secretary of Labor: letter of May 15, 1919, to the President, 327.
- Securities: (See also Capitalization, Regulation, Reorganization); demand for, (H. L. Stuart) 6-7, (S. R. Bertron) 7; ratio of stocks to bonds, 18-19, 94-95; not retained by promoters (G. E. Tripp), 54; change in value of electric railway (R. W. Babson), 121-122; of utilities in general, 122; guaranty of bonds (F. H. Sisson), 134-135; shrinkage in value of, 335; ratio of stock to funded debt, 335; fate of outstanding (F. H. Sisson), 336-337; treatment of, in valuation (G. E. Tripp), 364; value of, Boston Elevated (B. Warren), 398-399, 400, Eastern Massachusetts, 399.
- Security holders: relative effects of high prices on stockholders and bondholders, 118-119, (Fisher) 120-121, 388-390, 692-696, 731, 737-738.
- Self-supporting: meaning of, for street railways, 303-304.
- Service: (See also Police power); personal nature of, 9; use of police power for betterment of, Ch. XVII, 88-91; as controlling motive, 151, (D. F. Wilcox) 152-153; continuity of, 153, (D. F. Wilcox) 153-154; ways of improving (J. B. Eastman), 271; regulation of jitney (R. W. Babson), 292-293; free, advocated by R. S. Bauer, 309; control of, under service at cost, (Cleveland) 443-444, (Montreal) 458, (Boston Elevated) 465, (Eastern Massachusetts) 472, (Massachusetts service-at-cost act) 478, (Cincinnati) 482-483, (Denver) 741; value of, effect of jitney competition on, 671.
- Service at cost: (See also Cleveland, Cincinnati, Montreal, Boston Elevated, Eastern Massachusetts, Youngstown); G. E. Tripp on, 130-131; H. C. Clark on, 131-132; J. K. Newman on, 133-134; S. R. Bertron on, 135; J. A. Beeler on, 137-138; effect on fares, 163-164; incentive under, 402-404; relation to commission regulation, 406; J. D. Mortimer on, 412; Ohio cities adopting, 426; general, Ch. XLI, 434-504, Ch. LIII, 631-634; analysis of Denver ordinance, 738-744.
- Shoup, Paul: on jitney competition, 99-100; on remedial measures, 420-421.
- Sidlo, Thomas L.: on financial policy of Cleveland Railway Co., 19; on return on capital, 499; on compulsory arbitration, 543-544.
- Sisson, Francis H.: on effect of wage increases, 10; on public hostility and overcapitalization, 38; on indebtedness, 44, 72; on effects of war prices on credit, 126-127; on public guaranties, 134-135; on public ownership, 140-141; on justification for public hostility, 154; on effect of fare increases, 169; on paving and other charges, 257; on efficiency of management, 261; on abandonment of unprofitable lines, 323-324; on overcapitalization, 332; on relation of capitalization to value, 335-336; on fate of outstanding securities, 336-337; on importance of the valuation, 368; on rate of return, 397-398; on regulation, 432.
- Skip-stop plan: effect of (G. C. Cummin), 267; in Philadelphia (C. J. Joyce), 267; J. A. Beeler on, 267.
- Smyth vs. Ames: Justice Harlan's decision, 380.

- Sommer, Frank H.: connection with Public Service Railway case, 665.
- Special assessments: (See also Contributions by property owners); M. R. Maltbie on, 317-318, 528; Lawson Purdy on, 528.
- Special franchise tax: (See Franchise tax).
- Spokane, Wash.: 1917-1919 comparison of fares and traffic, 187, of fares and revenues, 193; wage rates, 533, Note 1 of Ch. XLIII.
- Sprague, Frank J.: on future of the industry and on effect of competition, 290-291.
- Springfield, Mass.: jitney competition (B. Warren), 100; 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; zone system, 226-227; wage rates, 533, Note 1 of Ch. XLIII.
- Squires, Benjamin M.: on Canadian compulsory investigation act, 549.
- Standardization: (See Equipment).
- Standby charge: Public Service Railway Company, 230-231, 237-238.
- Stanley, John J.: on Cleveland reorganization, 51; on relation of bankers to credit, 73; on franchise requirements, 251; on contributions by property owners for extension in Cleveland, 317; on rate of return in Cleveland, 391-392; on regulation, 426-427.
- Statistical tables: New York City traffic, 3; wage rates, 13; earnings and construction expenditures, Stone & Webster companies, 22; annual capital additions, 23, 28; gross earnings and capital investment, 27; taxation statistics, 79; taxes and franchise obligations, 81; taxes, San Francisco-Oakland Terminal Railways, 84; percentage of taxes to revenue, New York City, 86; jitney and street car traffic, Bridgeport, Conn., 102; ratio of salaries and wages to operating revenues, 113; operating revenue per employe, 114; operating ratios, 123; operating ratios, New York City, 123, Cleveland, 124; average cost of supplies, 124; rates of fare in various cities, 163; percentage increases in fares and revenues, (Milwaukee) 179, (Hornell) 179, (Cumberland County) 179; relation of traffic to fare increases on principal U. S. systems (Table I), 183-188; relation of revenues to fare increases on principal U. S. systems (Table II), 189-194; traffic comparisons, principal U. S. systems, 6 months basis (Table III), 199; formulas for relations of fares, traffic and revenues, 203; summary, traffic compared to fare increases, principal U. S. systems (Table IV), 205-207; summary, revenues compared to fare increases, principal U. S. systems (Table V), 208-210; general summary, effect of fare increases upon traffic and revenues, principal U. S. systems (Table VI), 212; comparison of fares, traffic and revenues, Montreal with Toronto, 217; Cleveland taxes (1918), 252; Public Service Railway taxes (1918), 252; comparison of financial results under one-man car operation with those under heavier equipment, 279; total net capitalization (1917), 330; increase in gross revenues, Eastern Massachusetts, 476; income per passenger in Cincinnati, 485; comparison of service-at-cost cities with others as to effect of fare increases, 495; depreciation percentages, Seattle, 521-522; revenue and expense statement, Seattle Municipal Railway (1919), 523; table of strikes, with revenue losses (1919), 531; wage rates in principal cities, (Jan. 1, 1920) 532-533, (Jan. 1, 1921) Note 1 of Ch. XLIII; length of runs, Detroit and Philadelphia, 610; jitney traffic in Newark, N. J., 667; valuation comparisons, 727, 730; distribution of San Francisco Municipal Railway net earnings, Note 2 of Ch. XI.
- Stone & Webster: earnings and construction expenditures, 22; one-man car operation, 190; purchase arrangement with Seattle, 517-520, Note 4 of Ch. XLII; connection with Public Service Railway valuation, 661-662.
- Stops, location of: (See also Skip-stop plan); J. A. Beeler on, 267.
- Storrs, Lucius S.: on use of police power in Connecticut, 89-90; on jitney competition, Massachusetts and Connecticut, 101-103; on limitations of fare increases, 170-171; zone system in Connecticut, 232-235; on justice of paving and other charges, 253-254; on jitney competition and regulation, 294-295; on public subsidies, 314-315; on track mileage and interurban development in Great Britain and United States, 325.
- Streets: significance of rights in, 4.
- Strikes: (See also Right to strike); prevention of (W. C. Bliss), 11; table of, with revenue losses (1919), 531; effect of automobile on, 534-535; in Des Moines, 538-539; National War Labor Board's dealing with, 539; in Toronto, 549; in Philadelphia, 605-606; in 1920 and first half of 1921, Note 2 of Ch. XLIII.
- Stuart, Harold L.: on demand for securities, 6-7; on public service commissions, 93; on public ownership, 139; on rate of return, 395-397; on regulation, 431-432.
- Sturgis, Arthur: statistics of wage rates, 569, 571, 589-590; on increased productivity, 590-591; on effect of wage increases, 591.
- Subsidies, public: (See also Remedies); Ch. XXXIV, 303-321.
- Summary and outline of analysis of electric railway problem, with final conclusions indicated: 644-657.
- Superseded property: (See also Obsolescence); A. E. R. A. Committee on Valuation on, 350; G. E. Tripp on, 366.

- Surplus: use of, to meet losses, 118; as equalizer, 402; under service-at-cost plan, 439.
- Swayze, Justice: on rate of return (Passaic gas case), 387, 671.
- Syndicates: (See Holding companies).
- Syracuse, N. Y.: (See also New York State Railways); wage rates, 532, Note 1 of Ch. XLIII.
- Systems, statewide: 195.
- Tacoma, Wash.: 1917-1919 comparison of fares and traffic, 188, 207, of fares and revenues, 194, 210; wage rates, 533, Note 1 of Ch. XLIII.
- Taft, William H.: on credit situation, 6; on relation of wages to finances, 10; on overcapitalization and past profits, 37; on remedies, 138; on public ownership, 140; on justification for public hostility, 154; on limitations of fare increases, 168; on taxation, 247-248; on policy of public subsidies, 321; on reorganization and abandonment of unprofitable lines, 324.
- Taxation: (See also Franchise taxes); total (1917), 4; special, Ch. XVI, 78-87; relation to rise in costs, 117; H. J. Pierce on, 132; R. T. Higgins on, 136; relief from, Ch. XXX, 244-259, 286; of private vehicles, 286-287; "equal," and limited exemption from C. J. Bullock), 307-308; Massachusetts Public Service Commission on taxation to support street railways, 308-309; of land values to make up deficit in revenues (F. F. Ingram), 309-310; Massachusetts Special Street Railway Commission on, 313; relation to service-at-cost plans, 437; in Cleveland, 443; N. D. Baker on, 451.
- Taylor grant: (See Cleveland Railway Company).
- Taylor, A. Merritt: on valuation, 361-362.
- Terre Haute, Ind.: 1917-1919 comparison of fares and traffic, Terre Haute, Indianapolis & Eastern Traction Co., 188, (city lines) 205, (interurban) 207, of fares and revenues, 194, (city lines) 208, (interurban) 210.
- Texas-Midland Railroad: report of Interstate Commerce Commission on valuation of, 376-379.
- Third Avenue Railroad Company (New York City): overcapitalization, 44.
- Third Avenue Railroad Company (New York City): 1918-1919 taxes, 86; 1917-1919 comparison of fare and traffic, 183, of fare and revenue, 189.
- Tingley, C. L. S.: on dividends and maintenance policy (Scranton), 59-60; on increased costs, 127; on effect of fare increases, 169; on commission regulation, 423.
- Toledo, Ohio: 1917-1919 comparison of fares and traffic, 186, 207, of fares and revenues, 192, 210; local regulation in (H. L. Doherty), 428; wage rates, 533, Note 1 of Ch. XLIII; 1920 value, 729, 730; Milner service-at-cost plan, Note 6 of Ch. XL.
- Toronto, Ont.: fare system and effect on traffic and revenue, 216-217; comparison with Montreal, 217; wage rates, 533, Note 1 of Ch. XLIII; valuation, 727-728; municipal ownership program, Note 5 of Ch. XXVIII.
- Track: comparison of mileage in Great Britain and United States, 322, (L. S. Storrs) 324-325.
- Traffic: total for 1917, 2; compared with steam railroads, 2; increase in, 2-3; New York City increase, 3; increase over 1902, 16; effect of increased fares on, Ch. XXVIII, 165-217.
- Trailers: use of, in Detroit, 269, in Cleveland (N. D. Baker), 269.
- Transfers, abolition of: H. J. Pierce on, 132.
- Transmittal, letter of: Delos F. Wilcox to Charles E. Elmquist, Chairman, June 8, 1920, x.
- Transportation areas (or districts): suggested by Massachusetts Special Street Railway Commission, 313; to avoid city boundary difficulties, 511.
- Trenton, N. J.: 1917-1919 comparison of fares and traffic, 188, 207, of fares and revenues, 194, 210; wage rates, 533, Note 1 of Ch. XLIII.
- Tripp, Guy E.: on new capital requirements, 21; on overcapitalization, 37-38, 44; on promotion policy, 54; on uniform fare, 76; on failure of old methods of control and on possible remedies, 129-131; on obsolescence, 151-152; on limitations of fare increases, 168; on zone systems, 236-237; on taxation, 248; on one-man cars, 274; on valuation, 362-367.
- Troy: (See also United Traction Company); Note 2 of Ch. XLIII, Note 3 of Ch. XLIII.
- Twin City Rapid Transit Co. (Minneapolis and St. Paul, Minn.): 1917-1919 comparison of fare and traffic, 184, 205, of fare and revenues, 190, 208.
- Twining, William S.: criticism of Philadelphia Rapid Transit Company, report of Nov. 14, 1919, 282-284.
- Union Street Railway Company, New Bedford, Mass.: 1917-1919 comparison of fares and traffic, 188, 205, of fares and revenues, 194, 208; compared with Eastern Massachusetts, 476; 1920 situation, Note 1 of Ch. XV.
- Unions, recognition of: (See also Collective bargaining); National War Labor Board on, 566; W. J. Lauck on, 566-568.
- United Railroads: (See San Francisco).
- United Railways Co.: (See St. Louis, Mo.)
- United Railways and Electric Co.: (See Baltimore, Md.)

- United Traction Co. (Albany, Troy, etc.): strike, Note 2 of Ch. XLIII.
- Utah Light & Traction Co.: (See Salt Lake City).
- Utica, N. Y.: (See also New York State Railways); wage rates, 532, Note 1 of Ch. XLIII.
- Vahey, James H.: on Massachusetts compulsory arbitration bill, 545-549.
- Valuation: Ch. XXXVIII, 345-384; methods of certain valuation engineers, 44; as basis for rate fixing and purchase price, 385; J. D. Mortimer on, 411-412; Cleveland method (N. D. Baker), 446-447; under service at cost, (C. K. Robinson) 503, 739; under municipal ownership, 639; under Fowler bill, 639-640; New Jersey Commission, 661-663, 711-712; conflicting theories and their results, 681-712; general significance of, 725-727; analysis of Denver methods and results, 725-738; New Jersey act amended, Note 2 of Appendix A; by Ford, Bacon & Davis, Note 7 of Appendix A.
- Vancouver, B. C.: wage rates, 533, Note 1 of Ch. XLIII.
- Van Winkle, Marshall: connection with Public Service Railway case, 664.
- Vegelahn vs. Guntner: Justice Holmes quoted on labor organization, 546.
- Victoria, B. C.: wage rates, 533, Note 1 of Ch. XLIII.
- Virginia Railway & Power Co.: 1917-1919 comparison of fares and traffic, 185, 205, of fares and revenues, 191, 208; wage rates, 532, Note 1 of Ch. XLIII.
- Wage boards: under New York Public Service Commission bill, 554.
- Wages: (See also Cost of living, Labor, Living wage); National War Labor Board on, 9-10; W. H. Taft on relation to finances, 10; F. H. Sisson on effect of increase, 10; effect of increases (W. C. Bliss), 11; W. J. Lauck (Brief) defends increases, 11-12; effect of increases, (M. E. Cooley) 12, (T. Conway) 12; rates and increases (J. W. Welsh), 13; W. J. Lauck on wage theory, 14, on relation to revenues, 113-115; increased (C. L. S. Tingley), 127; in Cleveland since war, 530-531; National War Labor Board's dealings with disputes, 530, 534; rates in principal cities, (Jan. 1, 1920) 532-533, (Jan. 1, 1921) Note 1 of Ch. XLIII; determination of, under New York Public Service Commission bill, 553-554; average rates at different periods, (A. Sturgis) 569, 571, (Magnusson) 571; increase in (Boston Elevated), 581-583; effect of increases (A. Sturgis), 591; under Philadelphia plan, 605-606; recent changes, Note 1 of Ch. II, Note 2 of Ch. XLIII, Note 3 of Ch. XLIII.
- Wakelee, Edmund W.: on capitalization of franchises, 672.
- Walsh, John J.: on public subsidies, 314.
- War conditions: effect on value of money and on credit, Ch. XXII, 116-128; scarcity of free capital due to, 388.
- Warren, Bentley W.: on increased costs, 13; on jitney competition, Springfield, Mass., 100; on valuation, 345; on value of securities of Boston Elevated, 398-399.
- Washington, D. C.: 1917-1919 comparison of fares and traffic, 185, 206, of fares and revenues, 191, 209; zone system for (C. W. Kutz), 241; wage rates, 532, Note 1 of Ch. XLIII; 1919 valuation, 730; fare increase, Note 1 of Ch. XV.
- Washington, State of: provisions as to borrowing for public utilities, 515-520.
- Washington Water Power Co.: (See Spokane, Wash.)
- "Watered stock": (See also Overcapitalization); M. E. Cooley on, 355.
- Welsh, James W.: on wage rates, 13; annual capital additions, 23; statistics on receiverships and abandonment, 64; taxation statistics, 79-80, 81; on operating ratios, 123; net income statistics, 157.
- White, Chief Justice: quoted on status of railway labor (Adamson Law, Wilson vs. New), 550-551.
- Wilcox, Delos F.: testimony on public ownership, 147-148; on fundamental questions involved, 149-150; service vs. profits as controlling motive, 152-153; continuity of service, 153-154; on financial reorganization, 340-341.
- Address, Conference of Mayors, Philadelphia, 1914, on nature of public utility investments, 150-151.
- The Annals, March, 1915, on taxation of public utilities, 244-247.
- Letter to Cleveland Street Railroad Commissioner, October 3, 1919, on amortization of capital, 455.
- Willecox, O. B.: on new capital requirements, 29.
- Williams, Timothy S.: on compulsory arbitration, 559.
- Wilmington, Del.: 1917-1919 comparison of fares and traffic, 187, 206, of fares and revenues, 193, 209; wage rates, 533, Note 1 of Ch. XLIII.
- Wilson vs. New: Chief Justice White quoted, 550-551.
- Wilson, Woodrow: on 8-hour day, 583.
- Winnipeg, Man.: wage rates, 533, Note 1 of Ch. XLIII.
- Wisconsin: use of police power (J. D. Mortimer), 90-91; law providing for public guar-

- anties (J. D. Mortimer), 316; rate of return in (J. D. Mortimer), 395; regulation in, 405-413; restrictions on borrowing for public utilities, 525-527; Board of Conciliation (J. D. Mortimer), 615; valuation overheads allowed by Railroad Commission, 733; attitude of Commission on cash working capital, 734.
- Witt, Peter: relation of Cleveland capitalization to fare, 446.
- Wolff, Mark: analyses of cost and capitalization of Public Service Railway Company, 685-686, 707, 708, 710.
- Worcester, Mass.: 1917-1919 comparison of fares and traffic, 186, 207, of fares and revenues, 192, 210; wage rates, 533, Note 1 of Ch. XLIII.
- Working capital: limited requirements an aid to credit, 17-18; defined by A. E. R. A. Committee on Valuation, 350; M. E. Cooley on need for, 355-356; not a proper item in valuation for rate making, 734-735.
- Youngstown, Ohio: changes in fare, 164; 1917-1919 comparison of fares and traffic, 186, 206, of fares and revenues, 192, 209; wage rates, 533, Note 1 of Ch. XLIII.
- Zone fares: Ch. XXIX, 218-243; to combat jitney competition, 668, 669.



THIS BOOK IS DUE ON THE LAST DATE
STAMPED BELOW

AN INITIAL FINE OF 25 CENTS
WILL BE ASSESSED FOR FAILURE TO RETURN
THIS BOOK ON THE DATE DUE. THE PENALTY
WILL INCREASE TO 50 CENTS ON THE FOURTH
DAY AND TO \$1.00 ON THE SEVENTH DAY
OVERDUE.

JAN 28 1933

MAR 1 1933

AR 15 1933

APR 22 1936
May 6 1936

SEP 17 1941 M

JUN 20 1955

Handwritten scribbles

31 Oct '55 VL

FEB 5 1939

1939

1955 LU

APR 2 1954 LU

YD 11515

445265

HE4451

W5

UNIVERSITY OF CALIFORNIA LIBRARY

