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# Safety Management Information Statistics (SAMIS) 1993 Annual Report

U. S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Cambridge MA 02142

May 1995
Final Report


FEDERAL TRANSIT ADMINISTRATION

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The Safety Management Information Statistics 1993 Annual Report is a compilation and analysis of mass transit accident and casualty statistics reported by transit systems in the United States during 1993, reported under the Federal Transit Administration's Section 15 reporting system.



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# PREFACE

The Safety Management Information Statistics (SAMIS) 1993 Annual Report is a compilation and analysis of mass transit accident and casualty statistics reported by FTA-funded transit systems in the United States during 1993, reported under the Federal Transit Administration's Section 15 Reporting System.

This report was prepared under the sponsorship of the Federal Transit Administration, Office of Safety. The numbers for the tables and graphs are generated by the SAMIS System Software, developed at the Volpe Center in Cambridge, Massachusetts.

The authors wish to thank Judy Meade, Acting Deputy Director for the Office of Safety; Carole Ferguson, Transit Safety Specialist at the Office of Safety; William T. Hathaway, Senior Project Engineer at Volpe Center; and David A. Knapton, Technical Task Initiator at Volpe Center for their direction, guidance, and valuable comments during the preparation of this report.

# METRIC/ENGLISH CONVERSION FACTORS

## ENGLISH TO METRIC

### LENGTH (APPROXIMATE)

1 inch (in) = 2.5 centimeters (cm)
1 foot (ft) = 30 centimeters (cm)
1 yard (yd) = 0.9 meter (m)
1 mile (mi) = 1.6 kilometers (km)

### AREA (APPROXIMATE)

1 square inch (sq in, $in^2$) = 6.5 square centimeters ($cm^2$)
1 square foot (sq ft, $ft^2$) = 0.09 square meter ($m^2$)
1 square yard (sq yd, $yd^2$) = 0.8 square meter ($m^2$)
1 square mile (sq mi, $mi^2$) = 2.6 square kilometers ($km^2$)
1 acre = 0.4 hectare (he) = 4,000 square meters ($m^2$)

### MASS - WEIGHT (APPROXIMATE)

1 ounce (oz) = 28 grams (gm)
1 pound (lb) = 0.45 kilogram (kg)
1 short ton = 2,000 pounds (lb) = 0.9 tonne (t)

### VOLUME (APPROXIMATE)

1 teaspoon (tsp) = 5 milliliters (ml)
1 tablespoon (tbsp) = 15 milliliters (ml)
1 fluid ounce (fl oz) = 30 milliliters (ml)
1 cup (c) = 0.24 liter (l)
1 pint (pt) = 0.47 liter (l)
1 quart (qt) = 0.96 liter (l)
1 gallon (gal) = 3.8 liters (l)
1 cubic foot (cu ft, $ft^3$) = 0.03 cubic meter ($m^3$)
1 cubic yard (cu yd, $yd^3$) = 0.76 cubic meter ($m^3$)

### TEMPERATURE (EXACT)

[(x-32)(5/9)] °F = y °C

## METRIC TO ENGLISH

### LENGTH (APPROXIMATE)

1 millimeter (mm) = 0.04 inch (in)
1 centimeter (cm) = 0.4 inch (in)
1 meter (m) = 3.3 feet (ft)
1 meter (m) = 1.1 yards (yd)
1 kilometer (k) = 0.6 mile (mi)

### AREA (APPROXIMATE)

1 square centimeter ($cm^2$) = 0.16 square inch (sq in, $in^2$)
1 square meter ($m^2$) = 1.2 square yards (sq yd, $yd^2$)
1 square kilometer ($km^2$) = 0.4 square mile (sq mi, $mi^2$)
10,000 square meters ($m^2$) = 1 hectare (he) = 2.5 acres

### MASS - WEIGHT (APPROXIMATE)

1 gram (gm) = 0.036 ounce (oz)
1 kilogram (kg) = 2.2 pounds (lb)
1 tonne (t) = 1,000 kilograms (kg) = 1.1 short tons

### VOLUME (APPROXIMATE)

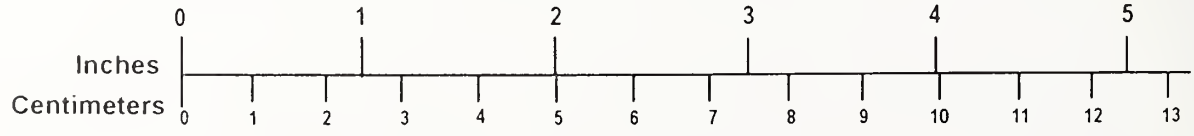
1 milliliter (ml) = 0.03 fluid ounce (fl oz)
1 liter (l) = 2.1 pints (pt)
1 liter (l) = 1.06 quarts (qt)
1 liter (l) = 0.26 gallon (gal)

1 cubic meter ($m^3$) = 36 cubic feet (cu ft, $ft^3$)
1 cubic meter ($m^3$) = 1.3 cubic yards (cu yd, $yd^3$)

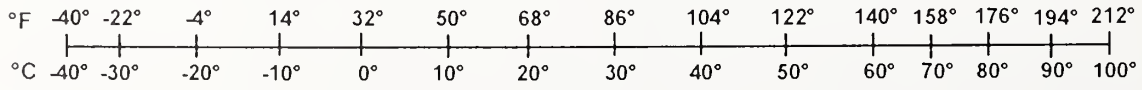
### TEMPERATURE (EXACT)

[(9/5) y + 32] °C = x °F

## QUICK INCH - CENTIMETER LENGTH CONVERSION




## QUICK FAHRENHEIT - CELSIUS TEMPERATURE CONVERSION




For more exact and or other conversion factors, see NBS Miscellaneous Publication 286, Units of Weights and Measures.
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Updated 1/23/95

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# INTRODUCTION

Now in its fourth year of publication, the Safety Management Information Statistics (SAMIS) report continues to provide uniformly-collected comprehensive safety data from approximately 400 transit agencies throughout the country. Most agencies own and operate more than one mode of transportation, thus bringing the number of transit services to approximately 600[1]. Last year, for the first time, SAMIS Report presented trend analyses summarizing three years of SAMIS data. Several improvements have been made to this year's report as well.

The 1993 SAMIS Annual Report contains twice as many Trend Analysis graphs as last year. New graphs/tables include Collisions, Personal Casualties, Derailments, Fires, and Property Damage per specified period of time (day, hour, minute). There are also 18 new Trend Analysis graphs and tables by individual transit mode. There are 6 completely new graphs. Four of them are breakdown percentages (pie charts) of Collisions, Personal Casualties, and Fires (complete with each category's incidents, fatalities and injuries) by type and the remaining 2 are the stack bar graphs for Fire-related mishaps. There is a one-page "Transit Safety Clock" which shows the time intervals before an incident occurs. Finally, there is a list of transit agencies whose data are used to produce this year's report.

The safety data presented in this report are collected via Form 405 of the Federal Transit Administration's Section 15 Reporting System. To facilitate the reader's understanding of the information presented in this report, Form 405 is shown on page 3. This safety information is collected separately for each transit mode an agency operates (e.g., an agency which operates bus and light rail will submit two Form 405s).

Transit safety data are collected in four basic categories: *Collisions, Derailments/Left Roadway, Personal Casualties,* and *Fires*. Each of these categories are further delineated in order to gather detailed information on the exact nature of the incident. For each incident that occurs, any associated injuries or fatalities must be noted as well. SAMIS reports these safety statistics for the following transit modes: Motor Bus (MB), Automated Guideway (AG), Commuter Rail (CR), Heavy Rail (HR), Light Rail (LR), Demand Response DR), and Van Pool (VP).

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[1]Only data for *Directly Operated* Transit Modes are included here. Data for transit services which are under contract to recipients or beneficiaries of Section 9 funds, i.e. *Purchased Transportation* are not included in the calculations.

As with previous years' SAMIS reports, caution should be used when making comparisons across different modes of transit, and also against data from other transportation reporting systems such as that for aviation and trucking. When comparing modes of transit, keep in mind their differences. For example, some transit modes run on exclusive rights-of-way while others mix with general traffic on surface roads. Some have extensive stations and terminals (where most of the fires are set) with escalators (where many of the injuries happen) while others have no such facilities. When making comparisons with data from other transportation reporting systems, consider that the reporting thresholds, assumptions, and definitions may be very different. For example, SAMIS reports property damage when the damage exceeds $1000, while other transportation industries use thresholds that may be lower or higher.

NOTE: The 1990 and 1991 figures presented in this year's report may differ slightly from former SAMIS reports due to the use of enhanced edit checking and correction criteria incorporated in the SAMIS System software, which produces the numbers for graphs and tables. The software was applied to the 1990 and 1991 safety data so that a meaningful comparison can be made among all four years.

# FORM 405

Org. id
Mode

FORM 405
Transit Safety

Fiscal Year: 12/31/93

| a | | b | c | d |
|---|---|---|---|---|
| Line | Items | Incidents | Fatalities | Injuries |
| | COLLISIONS | | | |
| 01 | Collision with other vehicles | | | |
| 02 | Collision with objects | | | |
| 03 | Collision with people | | | |
| 03a | (Attempted/successful suicides) | ( ) | ( ) | ( ) |
| | NON-COLLISIONS | | | |
| | Derailments | | | |
| 04 | Derailments/buses going off road | | | |
| | Personal casualties | | | |
| 05 | Inside vehicle | | | |
| 06 | Boarding and alighting vehicle | | | |
| 06a | (Associated with lifts) | ( ) | ( ) | ( ) |
| 07 | In Stations/bus stops | | | |
| 07a | (Associated with escalators) | ( ) | ( ) | ( ) |
| | Fires (no-thresholds) | | | |
| 08 | In vehicles | | | |
| 09 | In stations | | | |
| 10 | Right of way & others | | | |
| | T O T A L S | | | |
| 12 | Transit property damage | Dollar Amount $ | | |

Date Prepared: / /

Date Updated:

# GLOSSARY OF TERMS

**Vehicle Accident**

An incident involving a moving vehicle. Includes collisions with another vehicle, object, or person (except suicides) and derailment/left roadway.

**Passenger Accident**

Same as Vehicle Accident, except that Personal Casualties incidents on the vehicle and entering/exiting the vehicle are also included.

**Collision with Vehicle**

An incident in which a transit vehicle strikes or is struck by another vehicle. Reports are made if the accident results in death, injury, or property damage over $1,000.

**Collision with Object**

An incident in which a transit vehicle strikes an obstacle other than a vehicle or person (e.g., building, utility pole). Reports are made if the accident results in a death, injury, or property damage over $1,000.

**Collision with People**

An incident in which a transit vehicle strikes a person. Except where specifically indicated, collisions with people do not include suicide attempts. Reports are made if the incident results in death, injury, or property damage over $1,000.

**Derailment/Left Roadway**

A non-collision incident in which a transit vehicle leaves the rails or road on which it travels. This also includes roll-overs. Reports are made for all occurrences.

**Fatality**

A transit-caused death confirmed within 30 days of a transit incident.

# GLOSSARY OF TERMS (cont.)

**Fire**

Uncontrolled combustion made evident by flame and/or smoke which requires suppression by equipment or personnel. There are no thresholds; all fires are reported.

**Incident**

Collisions, personal casualties, derailments/left roadway, fires, and property damage greater than $1,000 associated with transit agency revenue vehicles and all transit facilities.

**Injury**

Any physical damage or harm to a person. There are no thresholds; all injuries are reported.

**Passenger Miles**

The total number of miles traveled by transit passengers (e.g., a bus that carries 5 passengers for a distance of 3 miles incurs 15 passenger miles).

**Personal Casualty on Vehicle**

An incident in which a person is injured on a transit vehicle, but not as a result of a collision, derailment/left roadway, or fire.

**Personal Casualty Entering/Exiting a Vehicle**

An incident in which a person is hurt while getting on or off a transit vehicle (e.g., falls or door incidents).

**Personal Casualty Associated with Lifts**

An incident in which a person is hurt while using a lift to get on or off a transit vehicle. This is a subset of the Entering/Exiting a vehicle in the Personal Casualty category.

**Personal Casualty in Stations/Bus Stops**

An incident in which a person is hurt while using a transit facility. This includes anyone on transit property (e.g., patrons, employees, trespassers) but does not include incidents resulting from illness or criminal activity.

# GLOSSARY OF TERMS (cont.)

**Personal Casualty Associated with Escalator**

An incident in which a person is hurt while using an escalator in a transit facility. Any incident in this category is a subset of Personal Casualty in Stations/Bus Stops.

**Suicide**

A person ending his or her own life intentionally. This is a subset of Collision with People.

**Transit Property**

All facilities which are directly controlled by a transit agency or provided to a transit agency for its use. This includes stations, rights-of-way, bus stops, and maintenance facilities.

**Transit Property Damage**

The dollar amount required to repair or replace transit property damaged during an incident.

**Vehicle Miles**

The total number of miles traveled by transit vehicles. Commuter rail, heavy rail, and light rail report individual car miles rather than train miles for vehicle miles.

# TRANSIT MODE DEFINITIONS

**AG - Automated Guideway**

Consists of one or more automatically controlled vehicles operating on an exclusive guideway.

**CR - Commuter Rail**

Urban passenger train service for local short distance travel between a central city and suburbs. Commuter rail does not include heavy rail or light rail service. Service of a predominantly intercity nature is excluded, except where a local portion is operated under public agency contract for commuter purposes.

**DR - Demand Response**

Personal transit service operated on roadways providing service on demand. Vehicles are normally dispatched, and used exclusively for this service.

**HR - Heavy Rail (Rapid Rail)**

Transit service using rail cars powered by electricity which is usually drawn from a third rail and usually operated on exclusive rights-of-way. It generally uses longer trains and has longer spacing between stations than light rail.

**LR - Light Rail (Streetcar)**

Urban transit which uses predominantly reserved but not always grade-separated rights-of-way. Electrically powered rail vehicles operate alone or in trains.

**VP - Vanpool**

Public sponsored commuter service operating under pre-arranged schedules for pre-formed groups of riders in 8- to 18-seat vehicles. Drivers are also commuters who receive little or no compensation besides free transportation and use of the vehicle during off hours.

# TRANSIT MODE DEFINITIONS (cont.)

**MB - Motor Bus**

Rubber tired passenger vehicles that operate on roadways. Motor bus service implies fixed routes and schedules. The SAMIS graphs descriptions LMB (large motor bus), MMB (medium motor bus), and SMB (small motor bus) describe the size of the transit agency which operates the bus, not the size of the buses (i.e., if the number of buses an agency operates is greater than 500, then the vehicles are called LMB, if the agency operates less than 100 buses, they are called SMB, and anything in between is known as MMB). *Therefore, in this sense of the division, LMB, MMB, and SMB are <u>not</u> true transit modes, but a representation of the agencies' sizes.*

There are two reasons for this division:

- to reflect the differences in the operating environments and traffic mix.
- to have a meaningful comparison between the motor buses and the rest of the transit modes [note that since the motor buses constitute the majority of a transit agency's fleet, a chart comparing various motor bus (<u>combined</u>) statistics to the rest of the transit modes, would result in a graph where the motor bus statistics would have considerably dwarfed the other transit modes].

The data for TR (Trolleybus) mode is combined with the Motor bus data.

There are other Transit modes, which are omitted from this report. They are CC (Cable Car), FB (Ferryboat), IP (Inclined Plane), JT (Jitney), MO (Monorail), PB (Publico), TR (Aerial Tramway), and OR (Other).

The statistics for the aforementioned transit modes are not shown because they are not yet "significant" and will clutter the graphs (for example, the total figures for these transit modes are as follows: 411 Incidents, 1 Fatality, 383 Injuries and $191,174 in Property Damage).

# CHARTS

# Transit Safety Clock

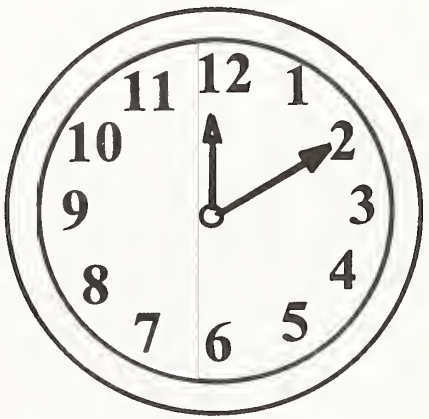
# 1993

**One Incident***
every
**8 Minutes**
** Collisions, Personal Casualties, Fires, and Derailments/Left Roadway*

The Transit Safety Clock should be viewed with care. The mode of display should not be taken to imply a regularity in the occurrence of incidents, rather, it represents the annual ratio of incidents to fixed time intervals.

**One Collision***
every
**17 Minutes**
** with Vehicles, Objects, People (not including suicide attempts)*

**One Fatality***
every
**31 Hours**
** from Collisions, Personal Casualties, Fires, and Derailments/Left Roadway*




**One Derailment***
every
**40 Hours**
** Derailments/Left Roadway*

**One Injury***
every
**10 Minutes**
** from Collisions, Personal Casualties, Fires, and Derailments/Left Roadway*

**$5128 in Property Damage every Hour**

**One Fire***
every
**99 Minutes**
** in Vehicle, Stations, Rights-Of-Way/Road*

# Totals of all Transit Mishaps by Year

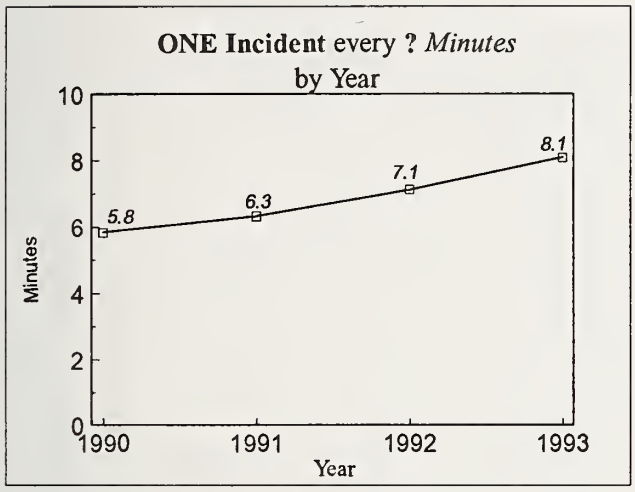
| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **Incidents*** | 90,163 | 83,139 | 73,831 | 64,986 |
| **Fatalities** | 339 | 300 | 273 | 281 |
| **Injuries** | 54,556 | 52,125 | 55,089 | 52,668 |
| **Collisions**** | 57,726 | 46,238 | 36,202 | 30,338 |
| **Suicides (attempts)** | 126 | 74 | 98 | 95 |
| **Personal Casualties** | 25,212 | 30,352 | 31,352 | 29,036 |
| **Derailment/Left Road** | 276 | 229 | 178 | 221 |
| **Fires** | 6,823 | 6,246 | 6,001 | 5,296 |
| **Property Damage ($)** | 37,972,669 | 37,476,192 | 37,454,950 | 44,924,732 |

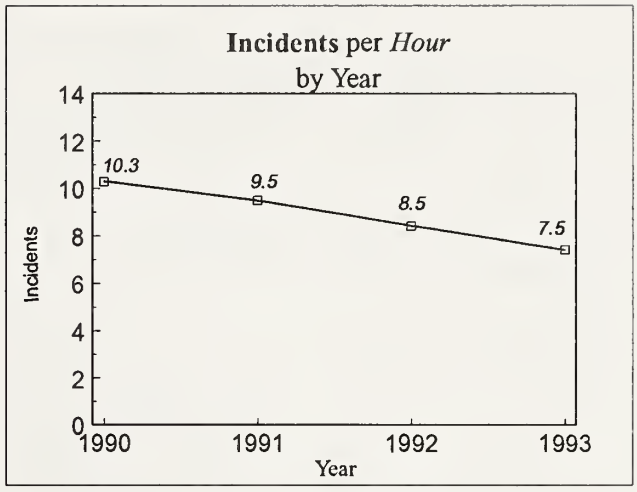
* This is the total incidents of Collisions,
Personal Casualties, Derailments, and Fires

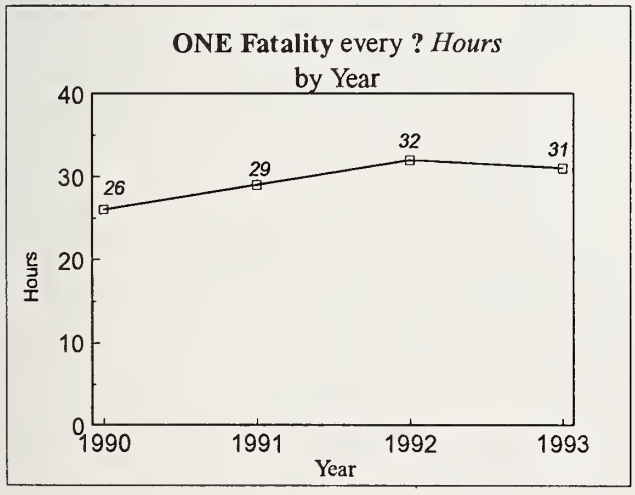
** Not including suicide attempts

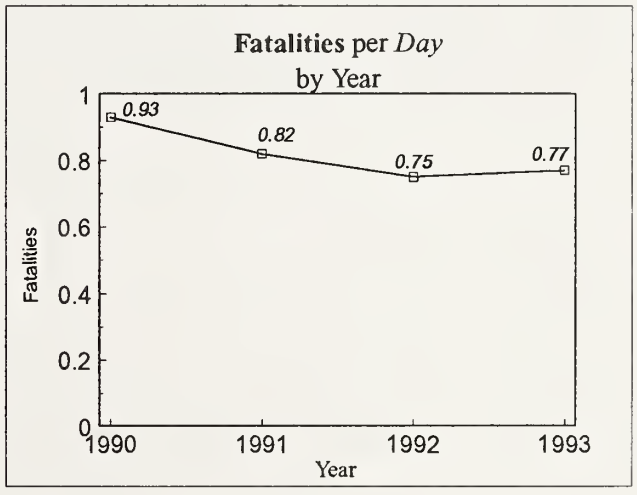
**A look at SAMIS data from 1990 through 1993**
(All Modes Combined)

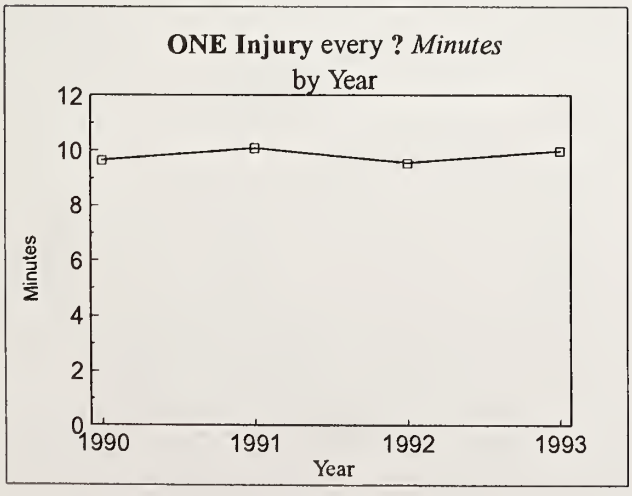
# TRENDS

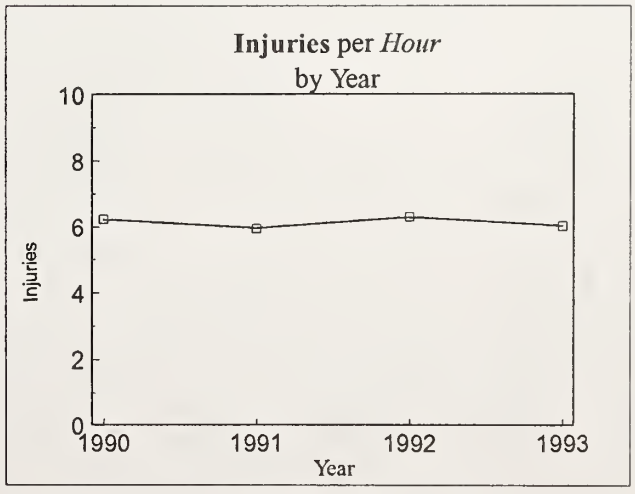

ONE Incident every ? Minutes
by Year
Minutes
Year
5.8
6.3
7.1
8.1
1990
1991
1992
1993

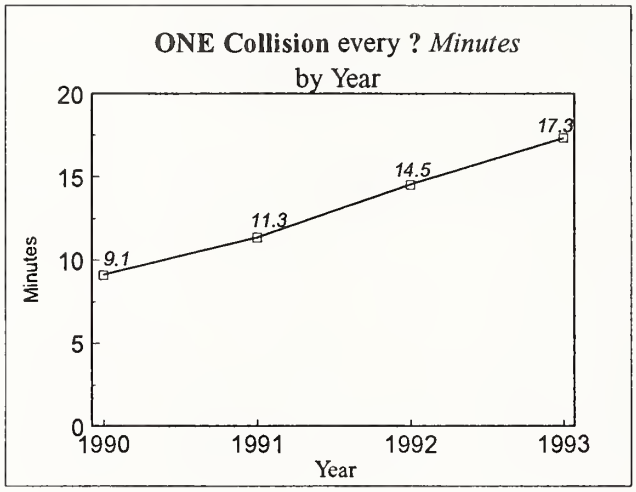

Incidents per Hour
by Year
Incidents
Year
10.3
9.5
8.5
7.5
1990
1991
1992
1993

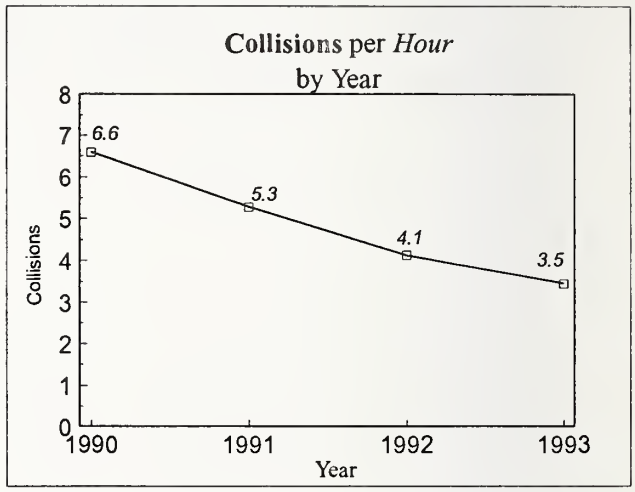

ONE Fatality every ? Hours
by Year
Hours
Year
26
29
32
31
1990
1991
1992
1993

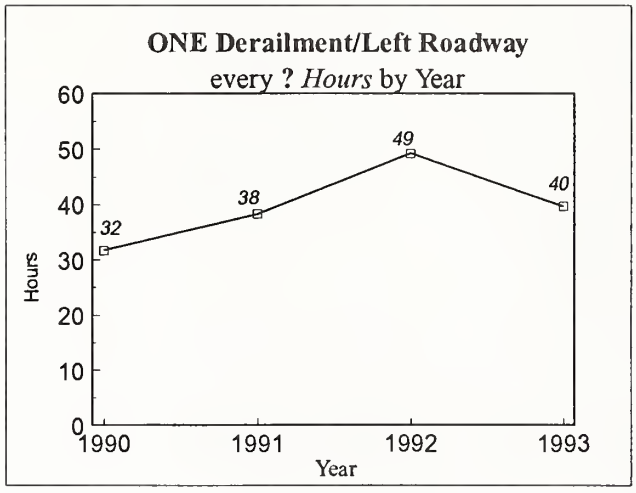

Fatalities per Day
by Year
Fatalities
Year
0.93
0.82
0.75
0.77
1990
1991
1992
1993

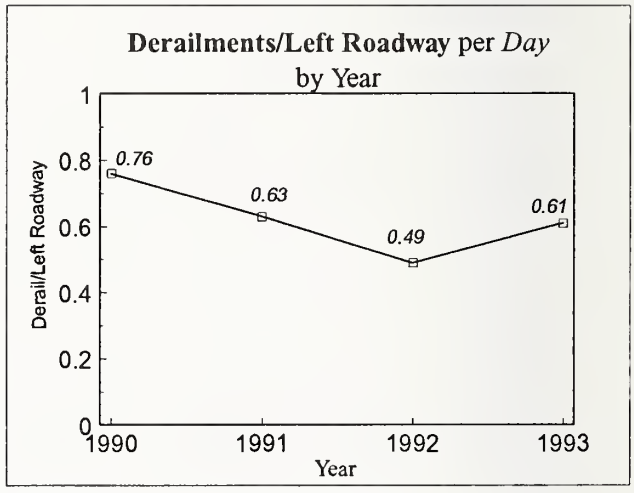

ONE Injury every ? Minutes
by Year
Minutes
Year
1990
1991
1992
1993

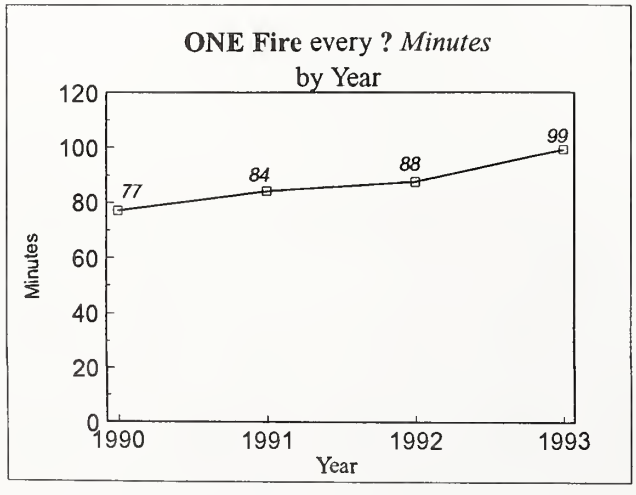

Injuries per Hour
by Year
Injuries
Year
1990
1991
1992
1993

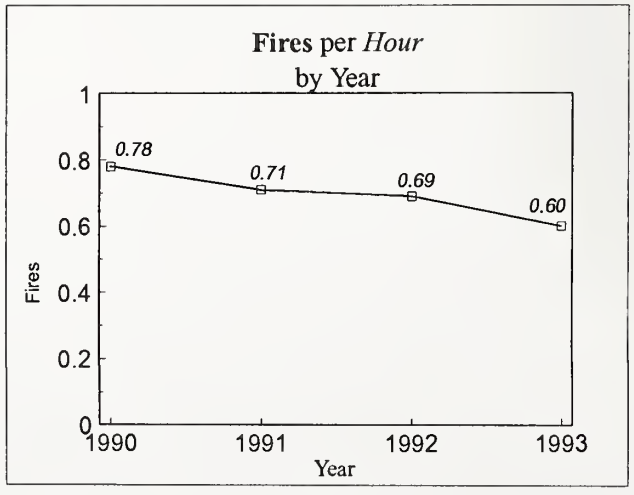

ONE Collision every ? Minutes
by Year
Minutes
Year
9.1
11.3
14.5
17.3
1990
1991
1992
1993

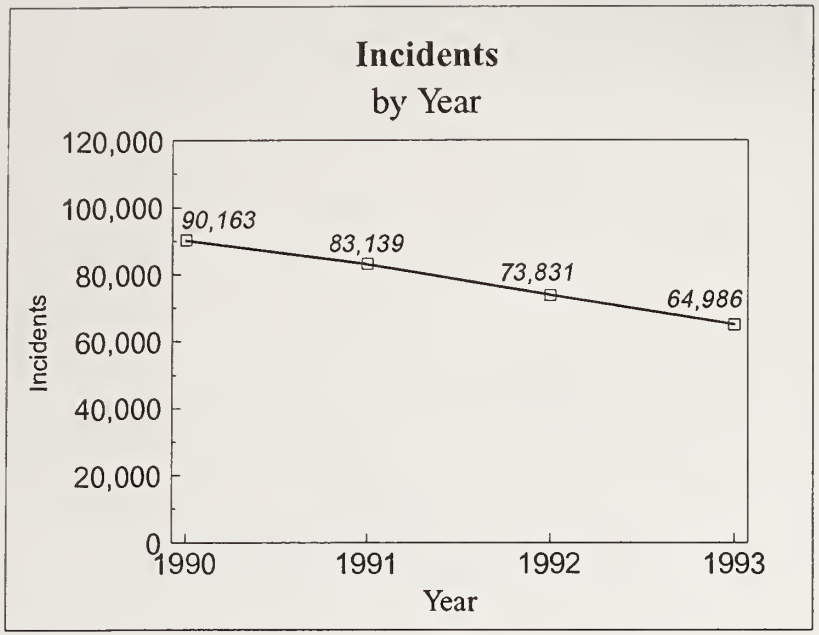

Collisions per Hour
by Year
Collisions
Year
6.6
5.3
4.1
3.5
1990
1991
1992
1993

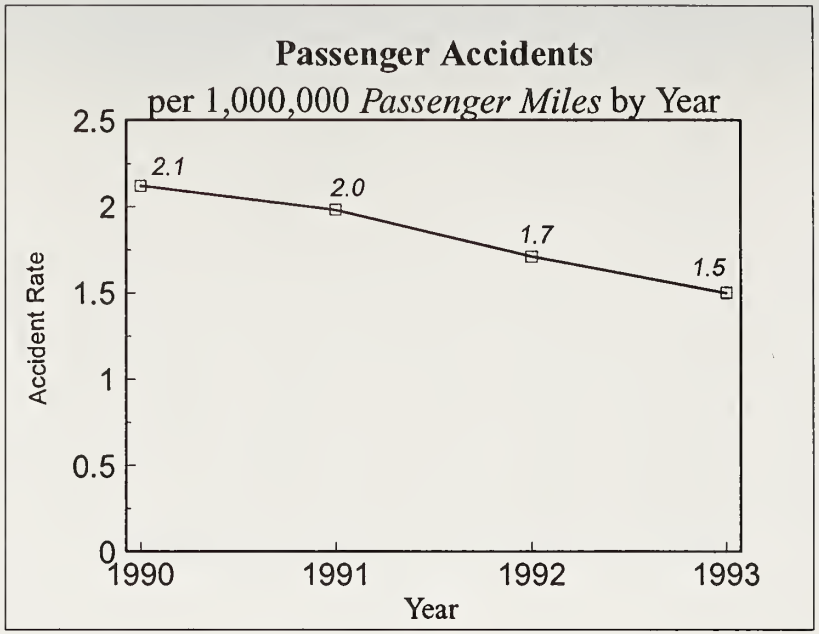

ONE Derailment/Left Roadway
every ? Hours by Year
Hours
Year
32
38
49
40
1990
1991
1992
1993

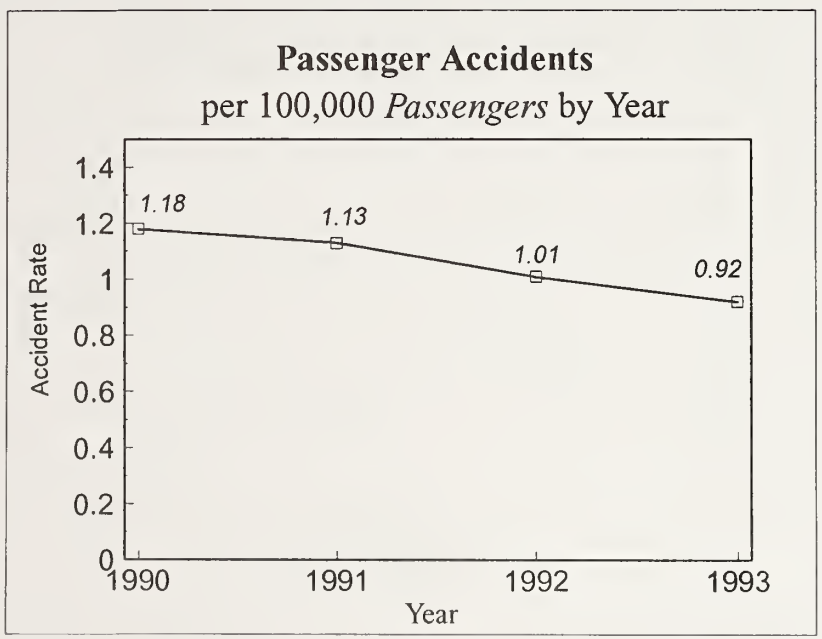

Derailments/Left Roadway per Day
by Year
Derail/Left Roadway
Year
0.76
0.63
0.49
0.61
1990
1991
1992
1993


ONE Fire every ? Minutes
by Year
Minutes
Year
77
84
88
99
1990
1991
1992
1993


Fires per Hour
by Year
Fires
Year
0.78
0.71
0.69
0.60
1990
1991
1992
1993

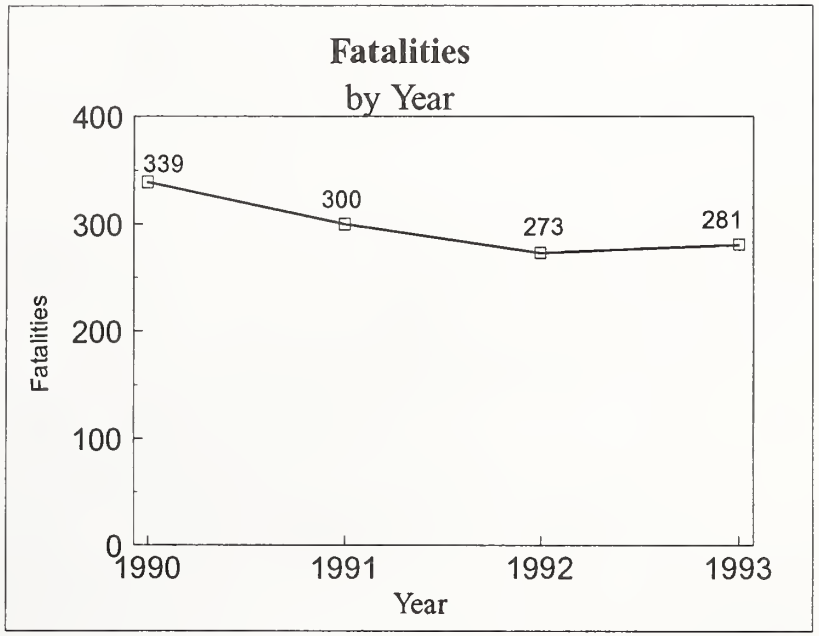


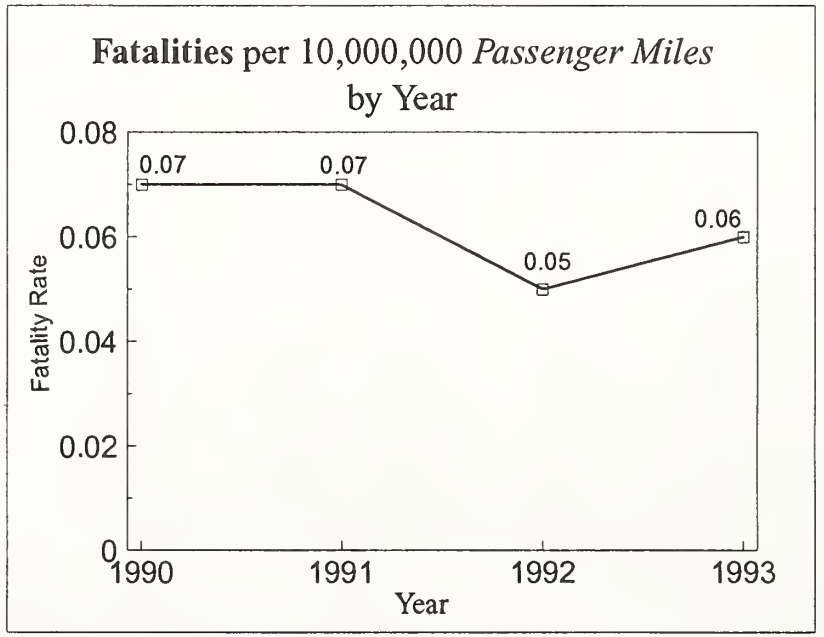



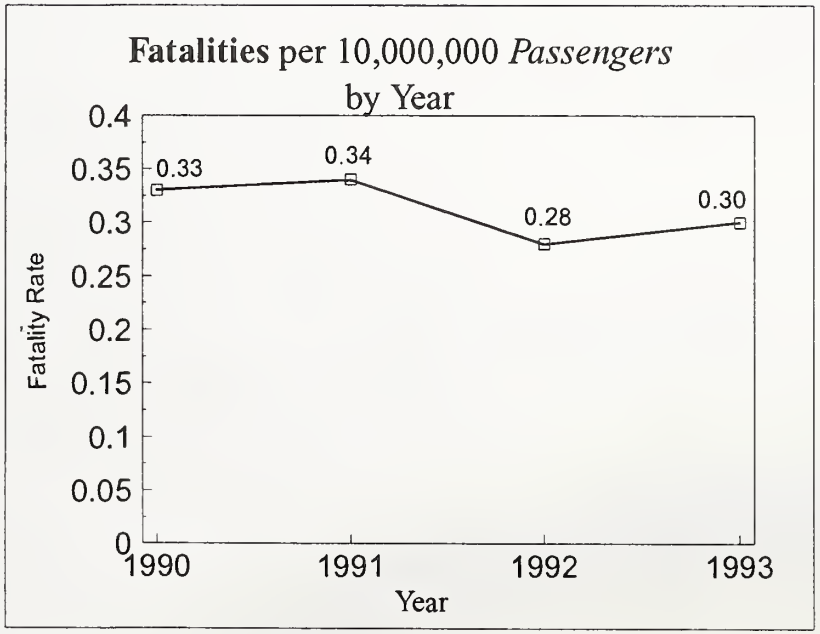




## Incidents by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 41,266 | 37,403 | 30,952 | 26,626 |
| **MMB** | 21,764 | 20,116 | 16,222 | 14,109 |
| **SMB** | 7,407 | 5,934 | 5,308 | 4,845 |
| **AG** | 3 | 1 | 8 | 10 |
| **CR** | 3,031 | 2,716 | 3,160 | 2,111 |
| **HR** | 12,178 | 14,102 | 15,512 | 15,082 |
| **LR** | 1,465 | 1,543 | 1,492 | 1,136 |
| **DR** | 2,965 | 1,241 | 1,137 | 946 |
| **VP** | 84 | 83 | 40 | 121 |
| **Total** | 90,163 | 83,139 | 73,831 | 64,986 |

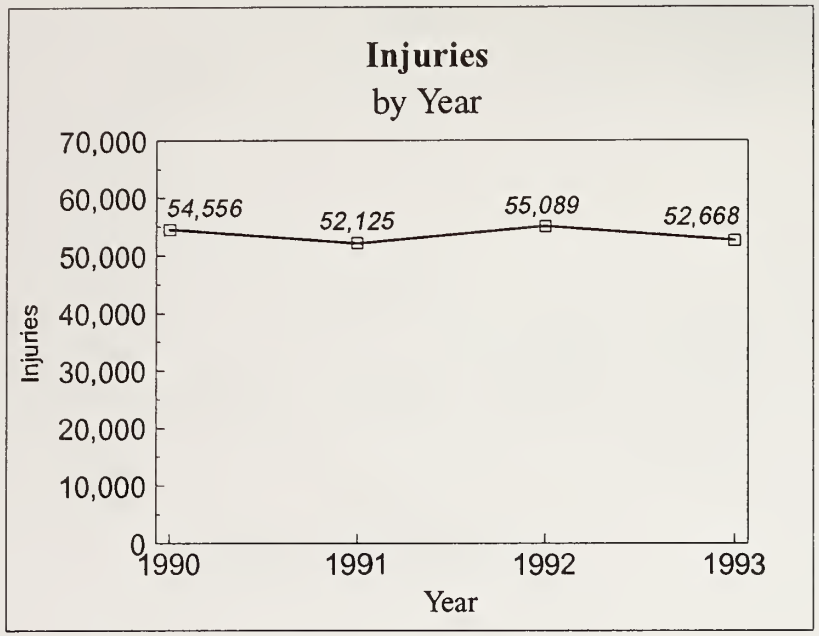


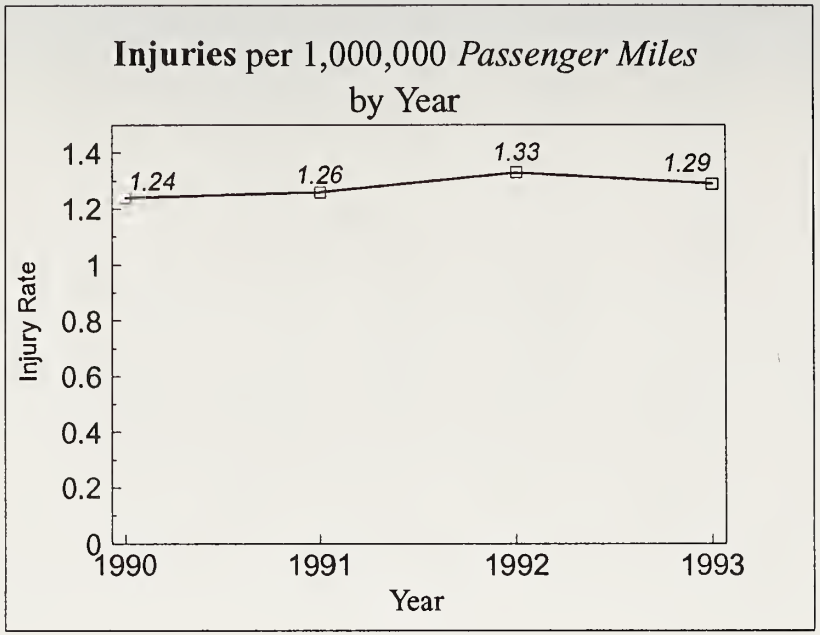



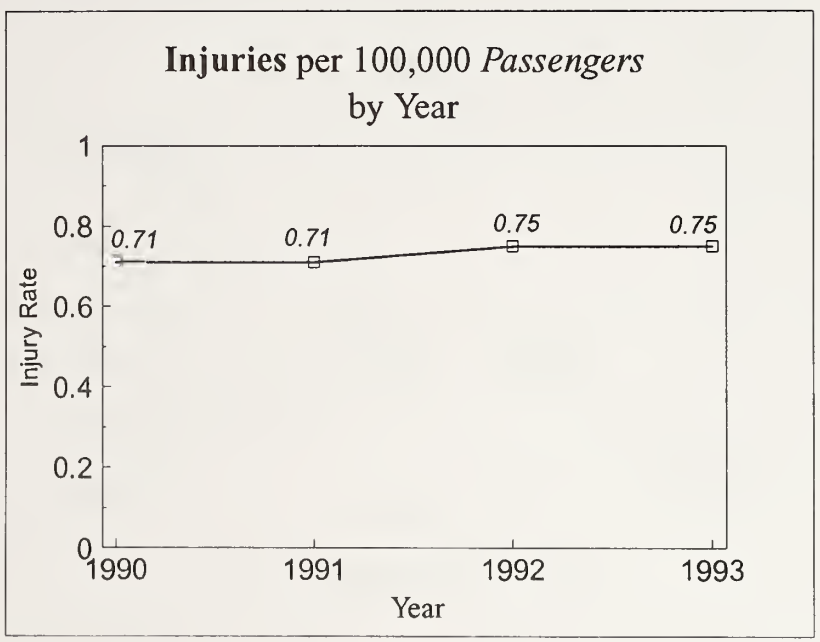




## Fatalities by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 57 | 53 | 56 | 47 |
| **MMB** | 33 | 24 | 34 | 30 |
| **SMB** | 20 | 11 | 9 | 6 |
| **AG** | 1 | 0 | 0 | 0 |
| **CR** | 104 | 93 | 74 | 98 |
| **HR** | 117 | 103 | 91 | 83 |
| **LR** | 7 | 13 | 9 | 15 |
| **DR** | 0 | 3 | 0 | 2 |
| **VP** | 0 | 0 | 0 | 0 |
| **Total** | 339 | 300 | 273 | 281 |

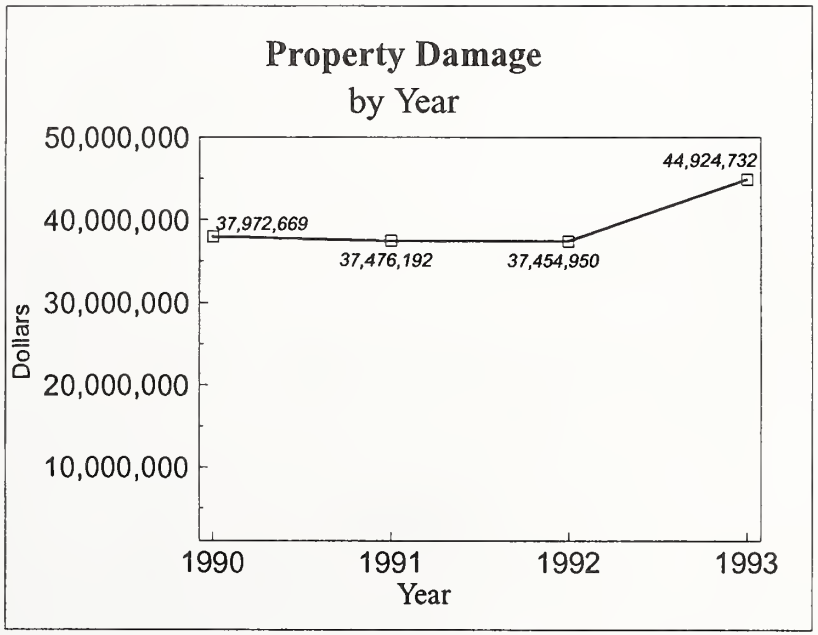


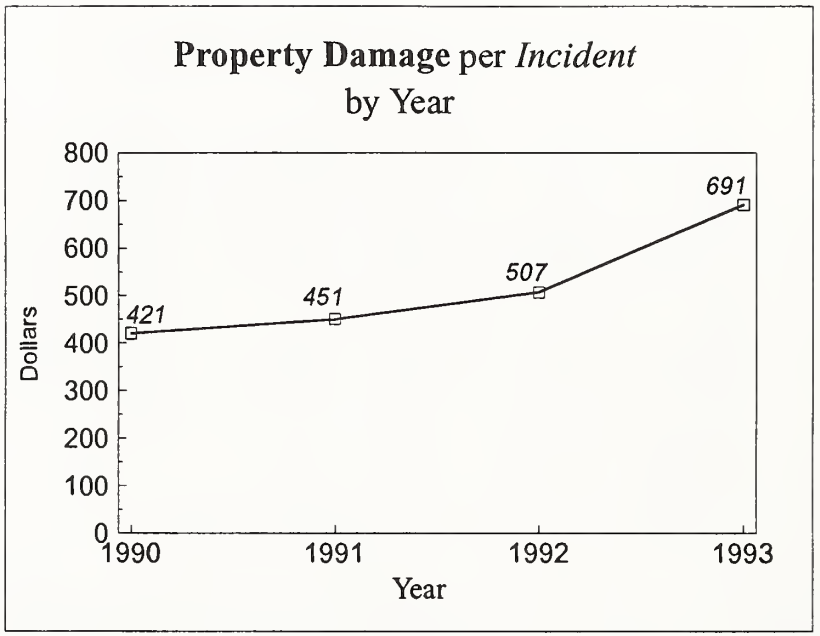



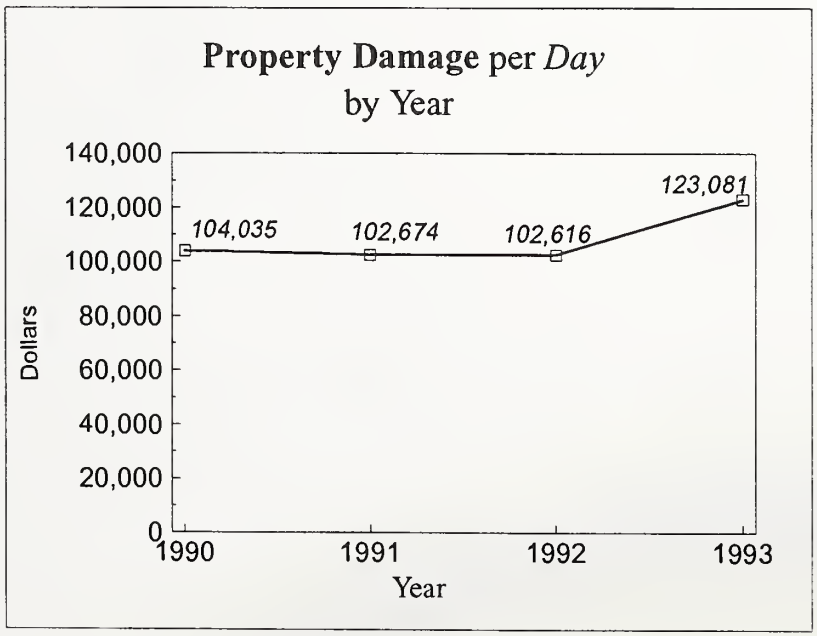




## Injuries by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| LMB | 21,891 | 22,301 | 23,654 | 23,393 |
| MMB | 13,780 | 12,366 | 12,090 | 11,153 |
| SMB | 4,335 | 3,952 | 4,346 | 4,327 |
| AG | 4 | 0 | 7 | 10 |
| CR | 2,438 | 2,308 | 2,546 | 1,560 |
| HR | 10,036 | 9,285 | 10,446 | 10,532 |
| LR | 1,244 | 1,251 | 1,268 | 982 |
| DR | 807 | 622 | 713 | 652 |
| VP | 21 | 40 | 19 | 59 |
| Total | 54,556 | 52,125 | 55,089 | 52,668 |

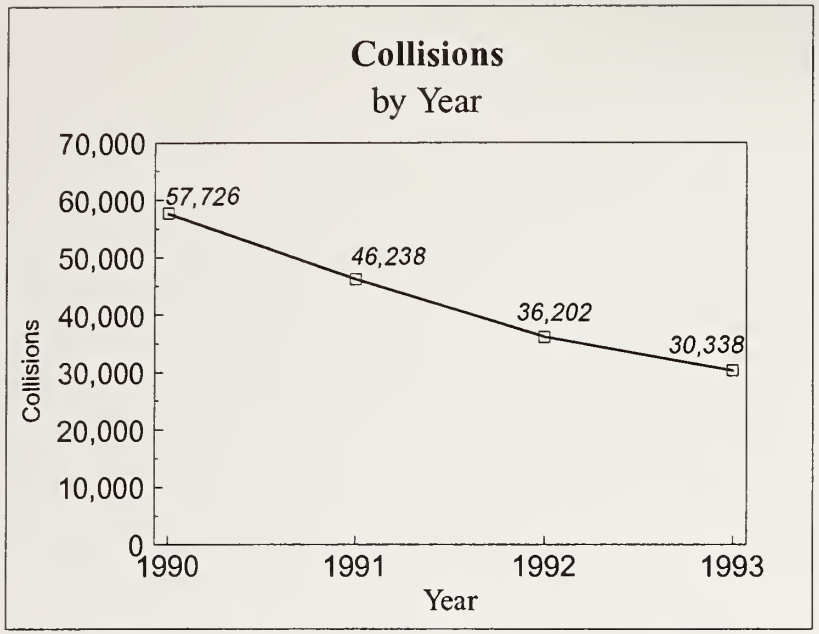


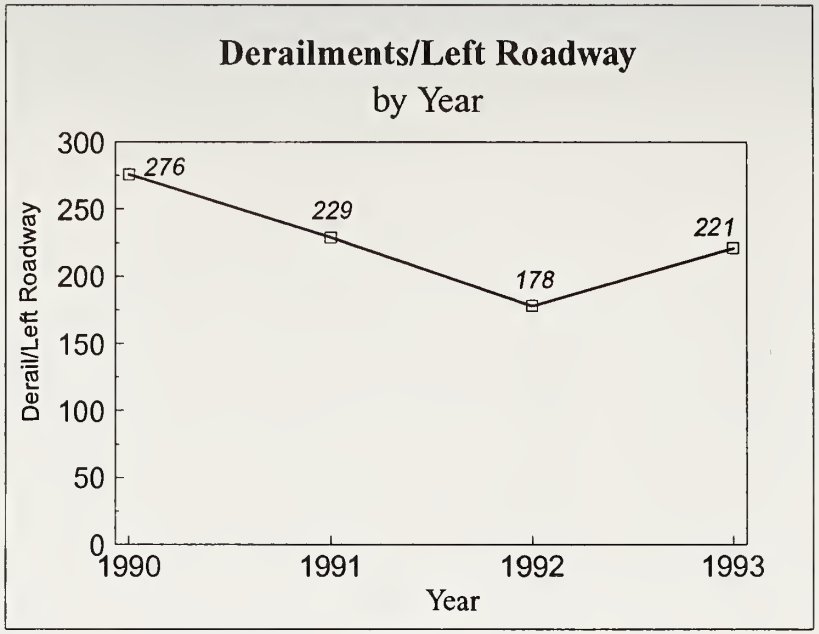



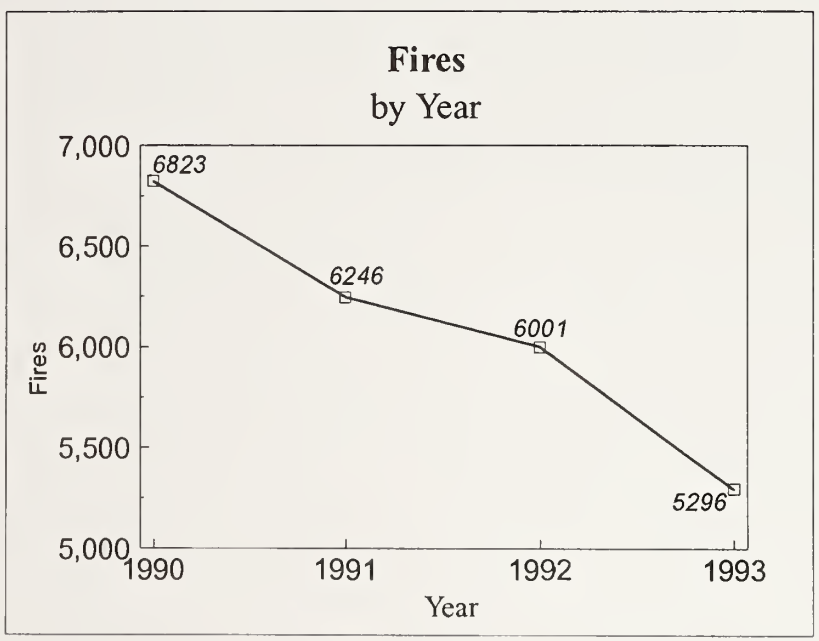



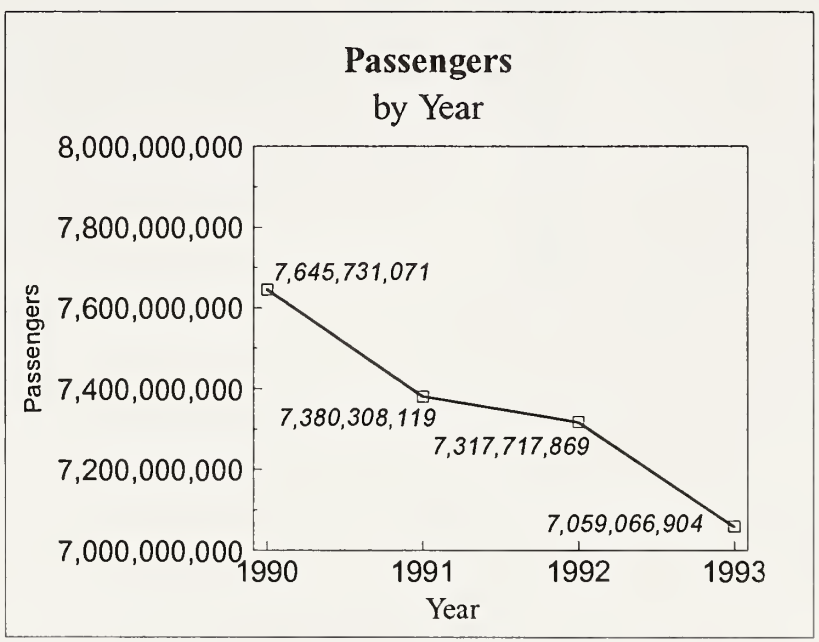

## Property Damage (in $) by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| LMB | 14,760,209 | 12,050,771 | 13,105,639 | 13,091,179 |
| MMB | 9,343,884 | 11,238,640 | 8,900,792 | 9,440,339 |
| SMB | 3,264,278 | 3,543,247 | 2,807,956 | 7,971,835 |
| AG | 0 | 2,217 | 11,286 | 0 |
| CR | 861,513 | 1,370,729 | 2,986,769 | 9,003,757 |
| HR | 7,929,642 | 6,525,828 | 7,333,790 | 3,911,643 |
| LR | 1,144,000 | 1,008,107 | 1,184,825 | 801,082 |
| DR | 600,594 | 1,492,942 | 1,053,526 | 547,062 |
| VP | 68,549 | 243,711 | 70,367 | 157,835 |
| Total | 37,972,669 | 37,476,192 | 37,454,950 | 44,924,732 |


Collisions
by Year
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Collisions
57,726
46,238
36,202
30,338
1990
1991
1992
1993
Year

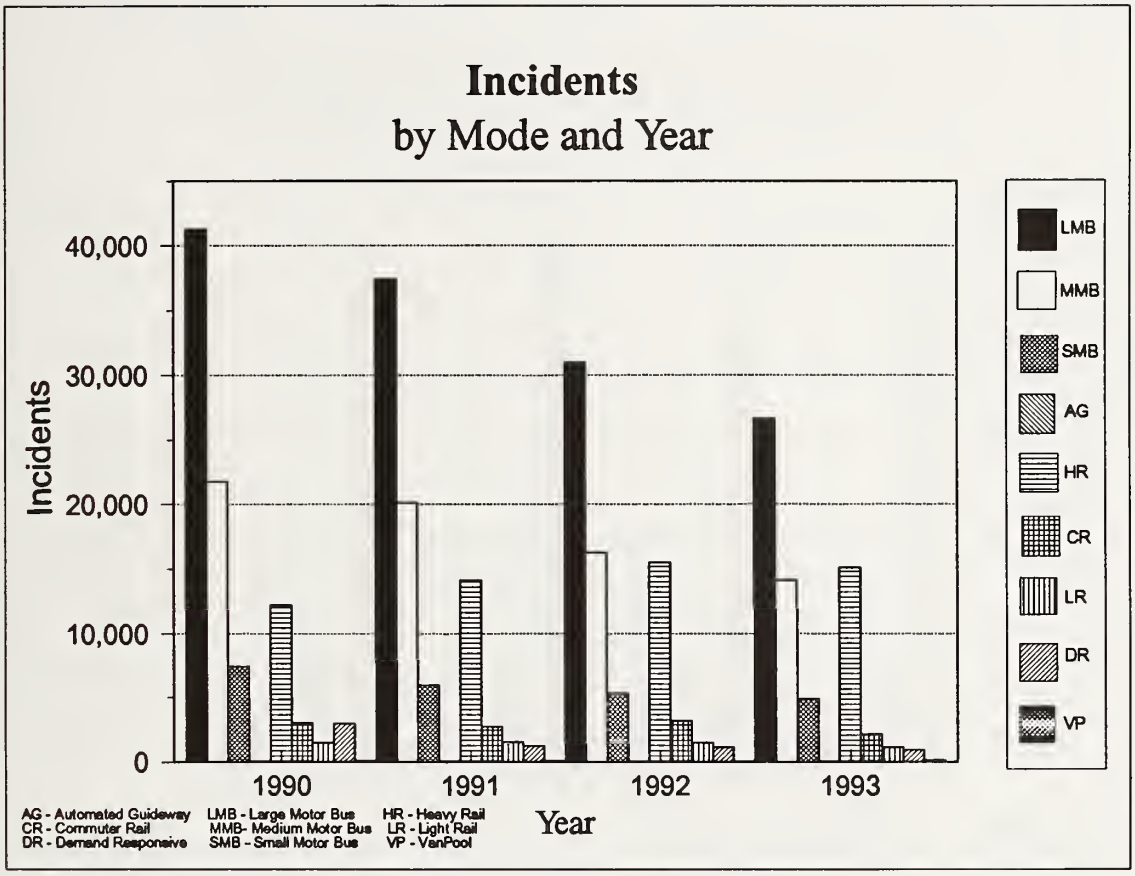

Derailments/Left Roadway
by Year
300
250
200
150
100
50
0
Derail/Left Roadway
276
229
178
221
1990
1991
1992
1993
Year

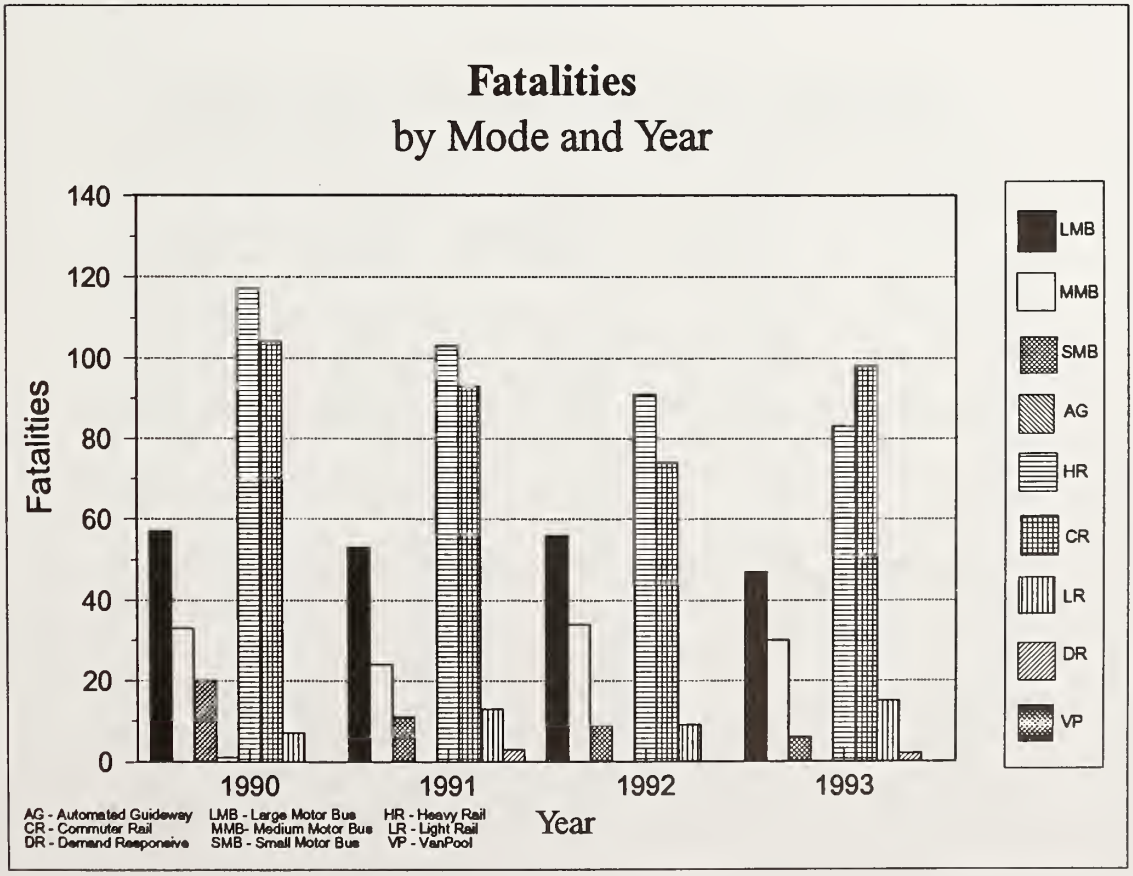

Fires
by Year
7,000
6,500
6,000
5,500
5,000
Fires
6823
6246
6001
5296
1990
1991
1992
1993
Year

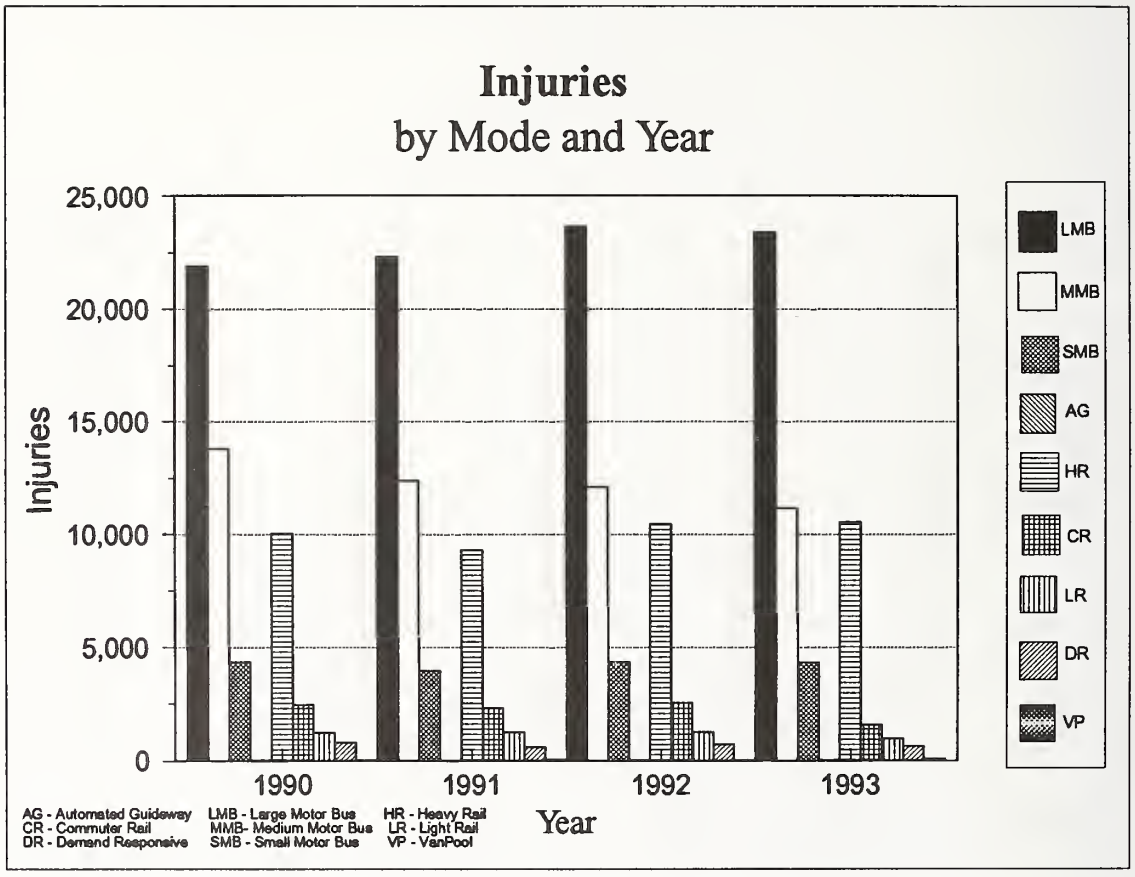

Passengers
by Year
8,000,000,000
7,800,000,000
7,600,000,000
7,400,000,000
7,200,000,000
7,000,000,000
Passengers
7,645,731,071
7,380,308,119
7,317,717,869
7,059,066,904
1990
1991
1992
1993
Year

**A look at SAMIS data from 1990 through 1993**
(Individual Transit Modes)

# TRENDS

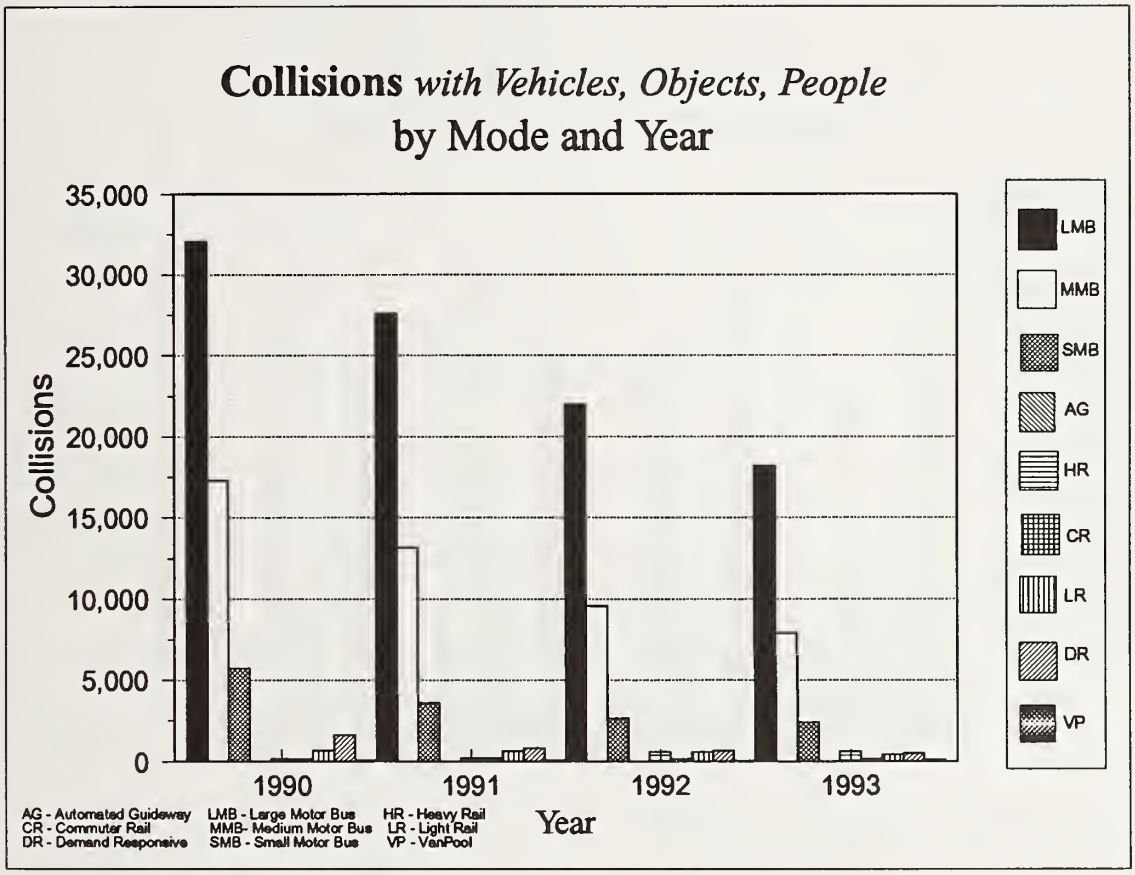

Incidents
by Mode and Year
40,000
30,000
20,000
10,000
0
Incidents
1990
1991
1992
1993
Year
LMB
MMB
SMB
AG
HR
CR
LR
DR
VP
AG - Automated Guideway
CR - Commuter Rail
DR - Demand Responsive
LMB - Large Motor Bus
MMB- Medium Motor Bus
SMB - Small Motor Bus
HR - Heavy Rail
LR - Light Rail
VP - VanPool


Fatalities
by Mode and Year
140
120
100
80
60
40
20
0
Fatalities
1990
1991
1992
1993
Year
LMB
MMB
SMB
AG
HR
CR
LR
DR
VP
AG - Automated Guideway
CR - Commuter Rail
DR - Demand Responsive
LMB - Large Motor Bus
MMB- Medium Motor Bus
SMB - Small Motor Bus
HR - Heavy Rail
LR - Light Rail
VP - VanPool



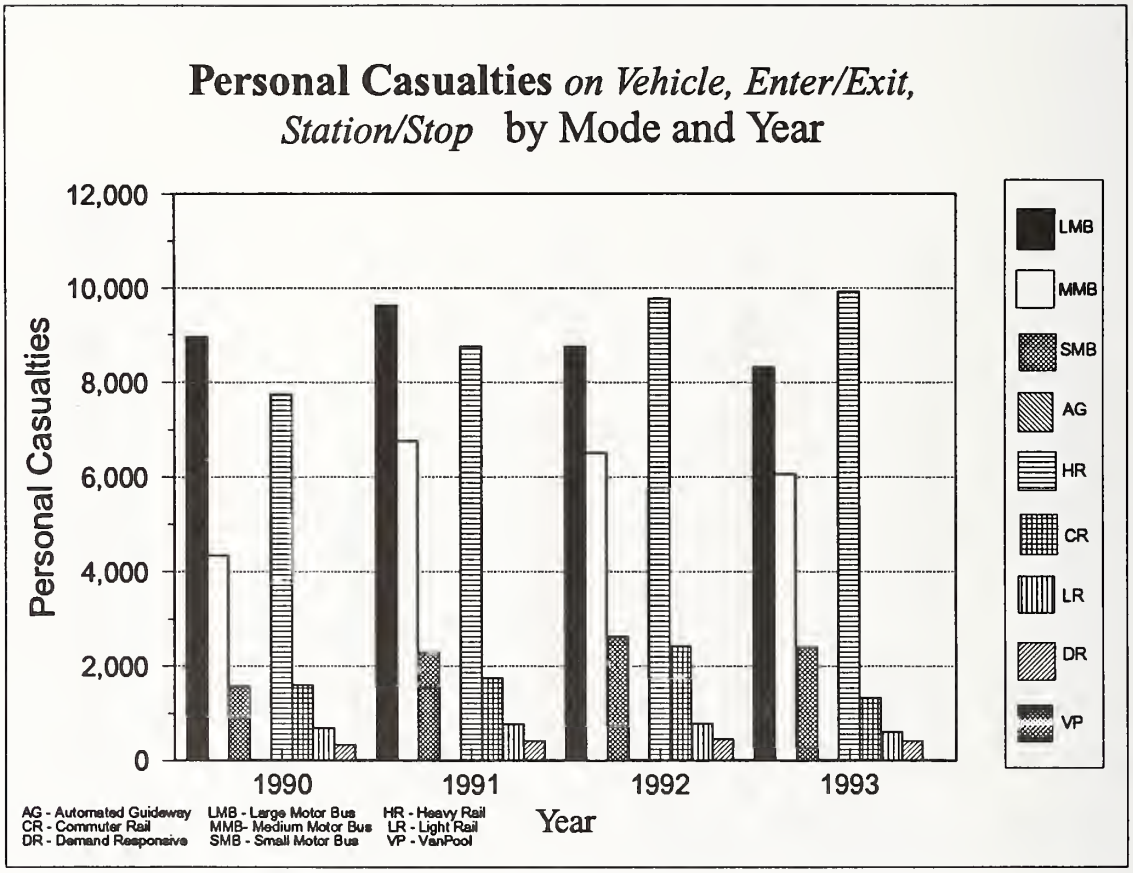

# Totals of all Modes by Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **Incidents** | 90,163 | 83,139 | 73,831 | 64,986 |
| **Fatalities** | 339 | 300 | 273 | 281 |
| **Injuries** | 54,556 | 52,125 | 55,089 | 52,668 |



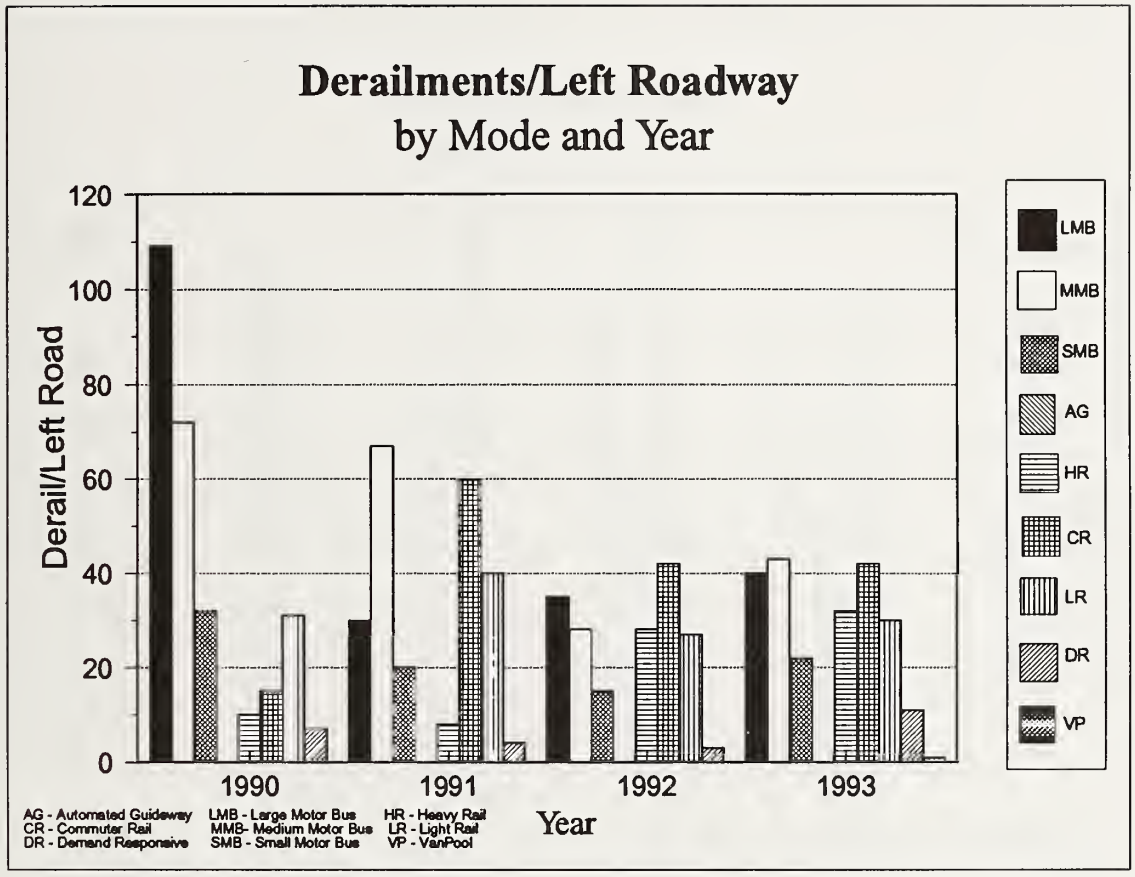

# Collisions by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 32,057 | 27,608 | 21,994 | 18,177 |
| **MMB** | 17,282 | 13,159 | 9,576 | 7,904 |
| **SMB** | 5,737 | 3,583 | 2,634 | 2,410 |
| **AG** | 1 | 0 | 1 | 1 |
| **CR** | 160 | 188 | 139 | 166 |
| **HR** | 134 | 180 | 585 | 630 |
| **LR** | 668 | 631 | 573 | 419 |
| **DR** | 1,606 | 810 | 665 | 513 |
| **VP** | 81 | 79 | 35 | 118 |
| **Total** | 57,726 | 46,238 | 36,202 | 30,338 |



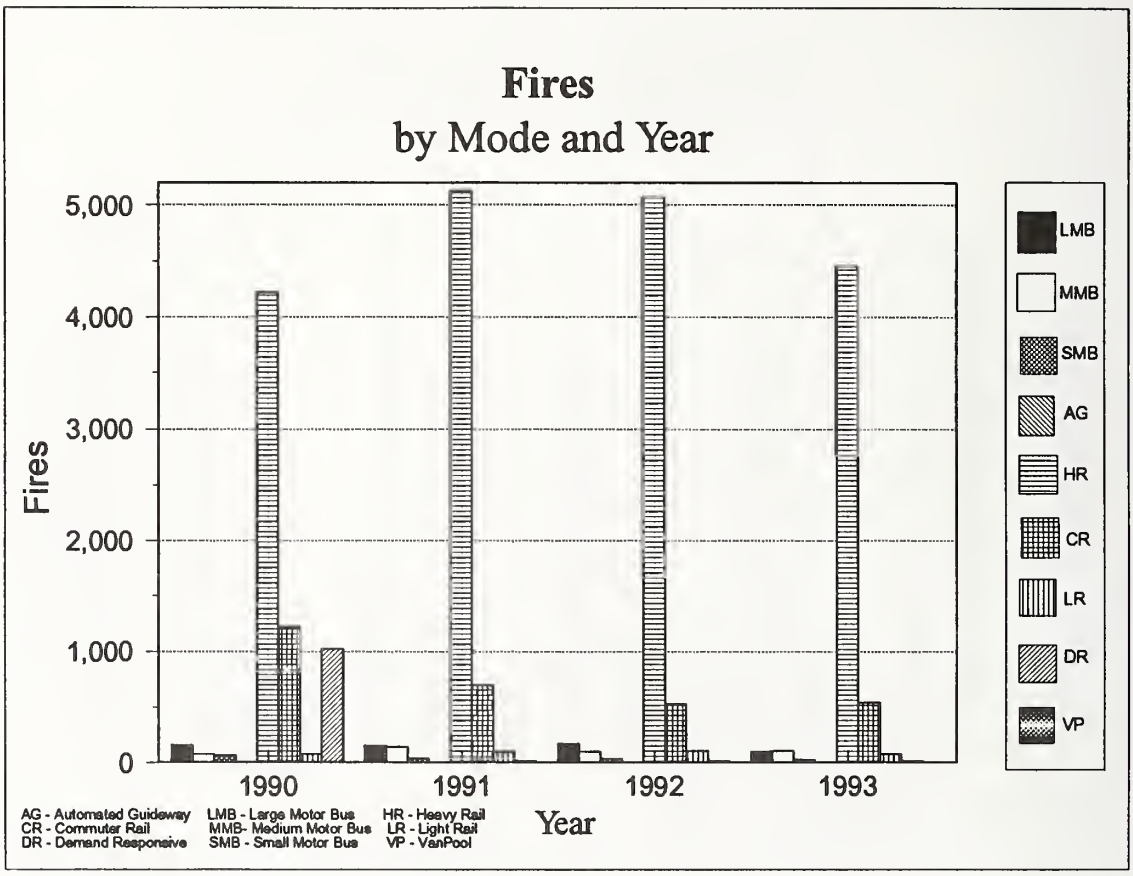

# Personal Casualties by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 8,949 | 9,618 | 8,753 | 8,309 |
| **MMB** | 4,335 | 6,753 | 6,514 | 6,062 |
| **SMB** | 1,569 | 2,294 | 2,628 | 2,394 |
| **AG** | 2 | 0 | 7 | 9 |
| **CR** | 1,592 | 1,751 | 2,429 | 1,326 |
| **HR** | 7,740 | 8,743 | 9,766 | 9,916 |
| **LR** | 692 | 774 | 789 | 607 |
| **DR** | 330 | 415 | 461 | 412 |
| **VP** | 3 | 4 | 5 | 1 |
| **Total** | 25,212 | 30,352 | 31,352 | 29,036 |



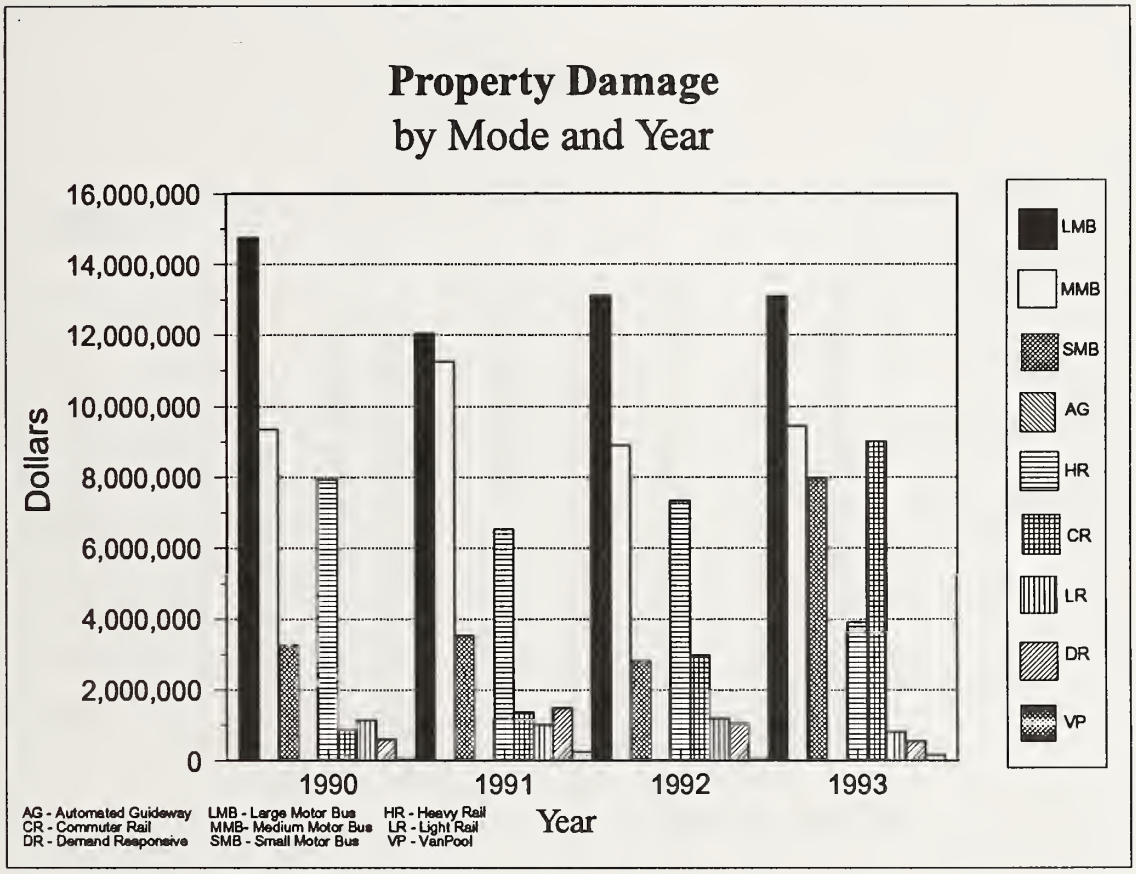

## Derailments/Left Roadway by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 109 | 30 | 35 | 40 |
| **MMB** | 72 | 67 | 28 | 43 |
| **SMB** | 32 | 20 | 15 | 22 |
| **AG** | 0 | 0 | 0 | 0 |
| **CR** | 15 | 60 | 42 | 42 |
| **HR** | 10 | 8 | 28 | 32 |
| **LR** | 31 | 40 | 27 | 30 |
| **DR** | 7 | 4 | 3 | 11 |
| **VP** | 0 | 0 | 0 | 1 |
| **Total** | 276 | 229 | 178 | 221 |



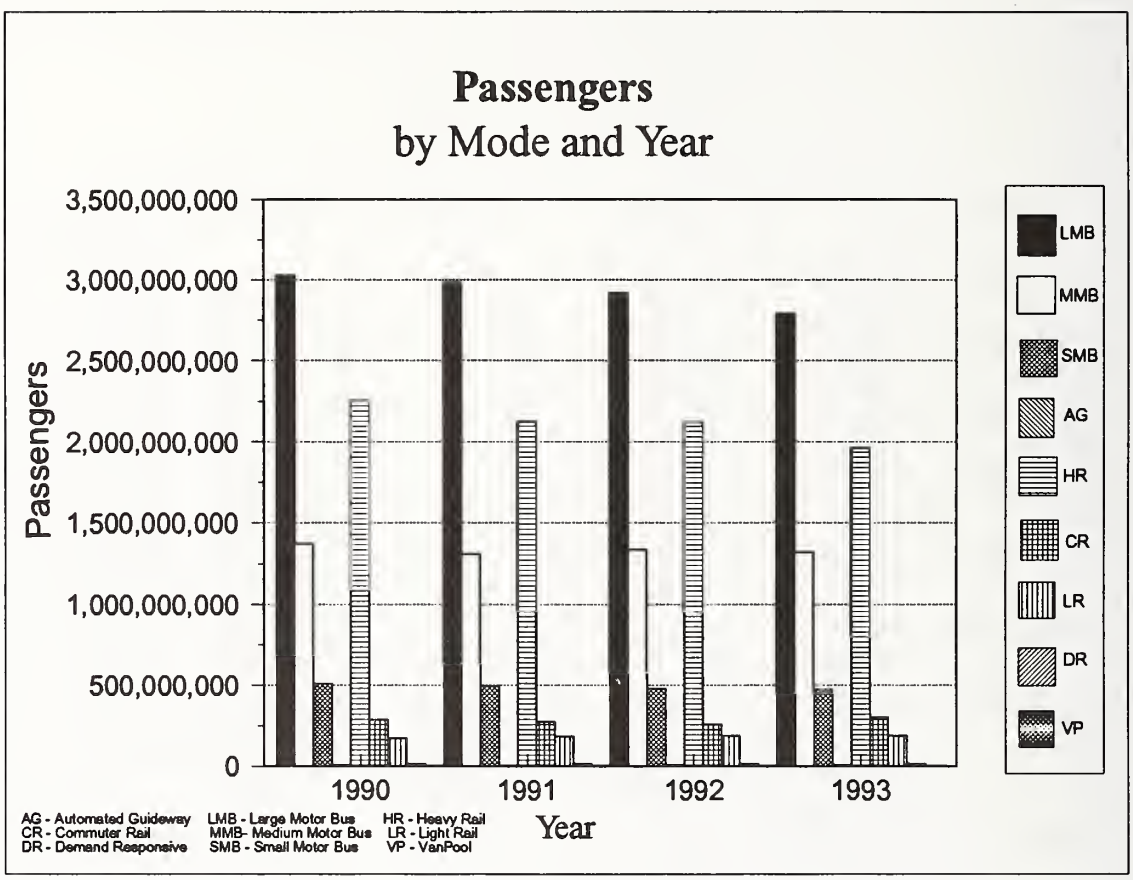

# Fires by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 151 | 146 | 168 | 99 |
| **MMB** | 73 | 136 | 98 | 100 |
| **SMB** | 62 | 36 | 31 | 19 |
| **AG** | 0 | 1 | 0 | 0 |
| **CR** | 1,226 | 695 | 527 | 540 |
| **HR** | 4,217 | 5,124 | 5,068 | 4,452 |
| **LR** | 72 | 96 | 101 | 75 |
| **DR** | 1,022 | 12 | 8 | 10 |
| **VP** | 0 | 0 | 0 | 1 |
| **Total** | 6,823 | 6,246 | 6,001 | 5,296 |



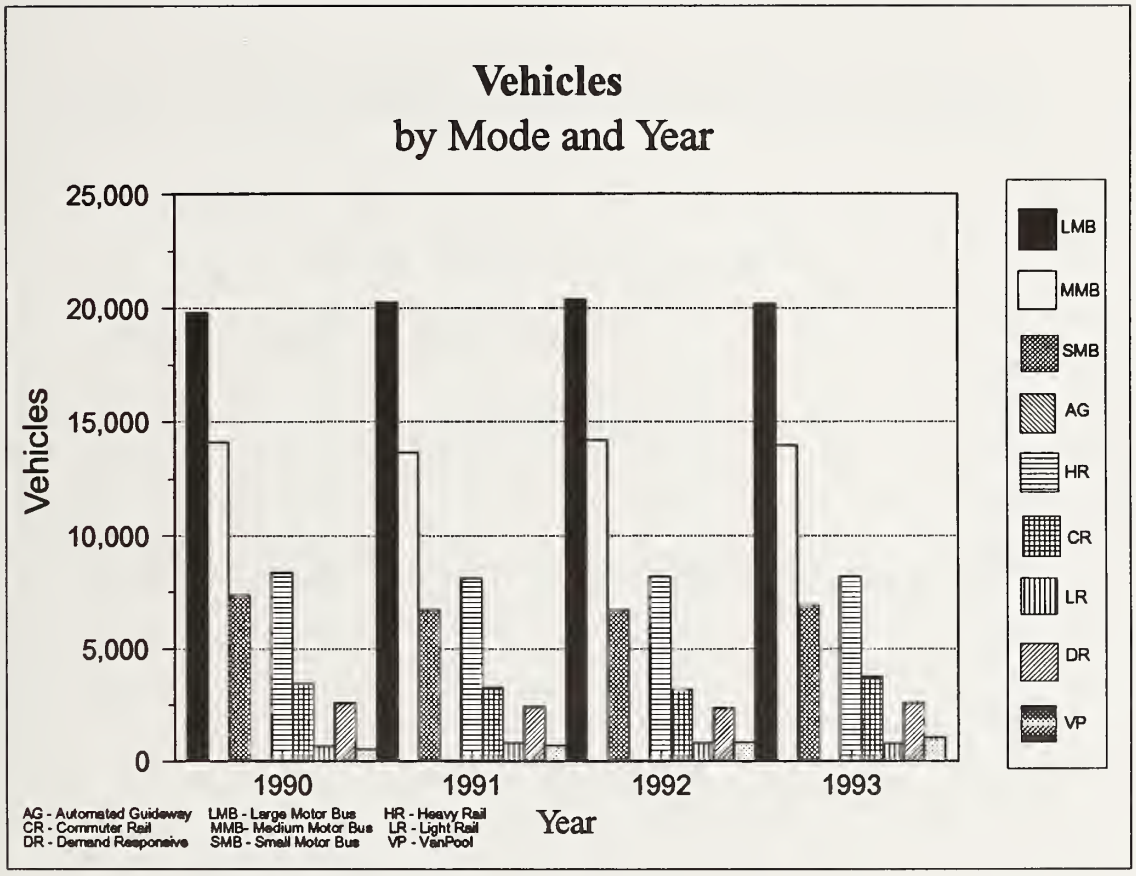

# Totals of all Transit Mishaps by Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **Collisions** | 57,726 | 46,238 | 36,202 | 30,338 |
| **Personal Casualties** | 25,212 | 30,352 | 31,352 | 29,036 |
| **Derailment/Left Road** | 276 | 229 | 178 | 221 |
| **Fires** | 6,823 | 6,246 | 6,001 | 5,296 |
| **Property Damage ($)** | 37,972,669 | 37,476,192 | 37,454,950 | 44,924,732 |




# Passengers by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| LMB | 3,029,861,563 | 2,978,584,127 | 2,915,883,332 | 2,792,806,711 |
| MMB | 1,371,209,547 | 1,309,022,201 | 1,334,447,953 | 1,318,147,322 |
| SMB | 510,598,687 | 492,859,837 | 477,450,141 | 473,672,717 |
| AG | 5,882,047 | 3,534,327 | 5,499,402 | 5,163,965 |
| CR | 285,861,662 | 273,938,924 | 261,870,040 | 302,598,857 |
| HR | 2,252,462,303 | 2,123,182,878 | 2,118,769,679 | 1,960,305,314 |
| LR | 174,000,077 | 183,563,959 | 187,321,032 | 187,336,419 |
| DR | 13,829,398 | 13,296,991 | 13,221,090 | 14,814,835 |
| VP | 2,025,787 | 2,324,875 | 3,255,200 | 4,220,764 |
| Total | 7,645,731,071 | 7,380,308,119 | 7,317,717,869 | 7,059,066,904 |




# Vehicles by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 19,808 | 20,230 | 20,383 | 20,184 |
| **MMB** | 14,091 | 13,634 | 14,178 | 13,971 |
| **SMB** | 7,358 | 6,723 | 6,712 | 6,904 |
| **AG** | 15 | 11 | 21 | 18 |
| **CR** | 3,444 | 3,266 | 3,182 | 3,755 |
| **HR** | 8,347 | 8,106 | 8,180 | 8,187 |
| **LR** | 661 | 808 | 769 | 769 |
| **DR** | 2,588 | 2,424 | 2,374 | 2,588 |
| **VP** | 520 | 697 | 846 | 1,029 |
| **Total** | 56,832 | 55,899 | 56,645 | 57,405 |

# Number of Reporting Agencies by Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **Transit Agencies** | 410 | 384 | 383 | 396 |

Agencies which have not provided both Safety and Operational data for a transit mode (either one is missing) are not included in the calculations

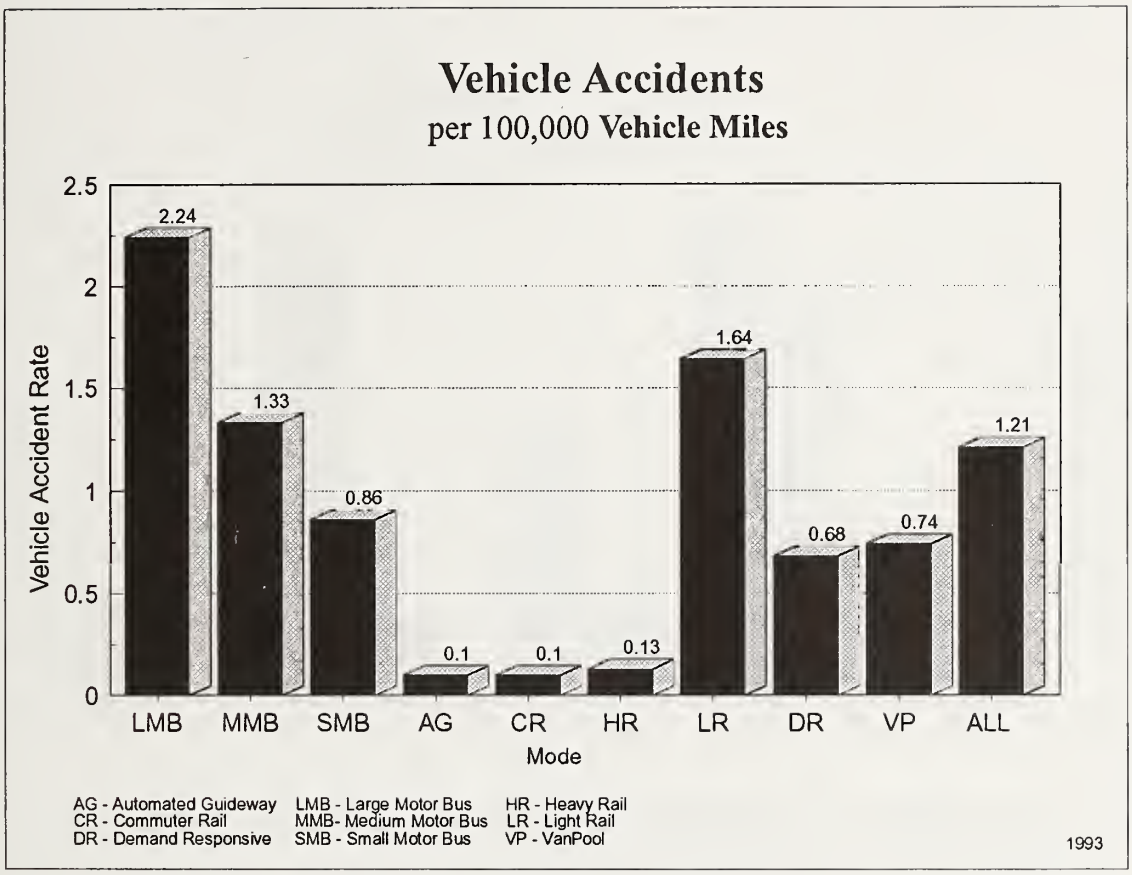
# Number of Reporting Agencies which Operate each of the Transit Modes by Mode and Year

| | 1990 | 1991 | 1992 | 1993 |
|---|---|---|---|---|
| **LMB** | 19 | 20 | 20 | 20 |
| **MMB** | 68 | 65 | 67 | 66 |
| **SMB** | 265 | 247 | 249 | 255 |
| **AG** | 3 | 2 | 3 | 3 |
| **CR** | 9 | 8 | 7 | 9 |
| **HR** | 12 | 12 | 13 | 14 |
| **LR** | 13 | 14 | 15 | 16 |
| **DR** | 166 | 160 | 170 | 173 |
| **VP** | 16 | 13 | 18 | 18 |
| **Total** | 571 | 541 | 562 | 574 |

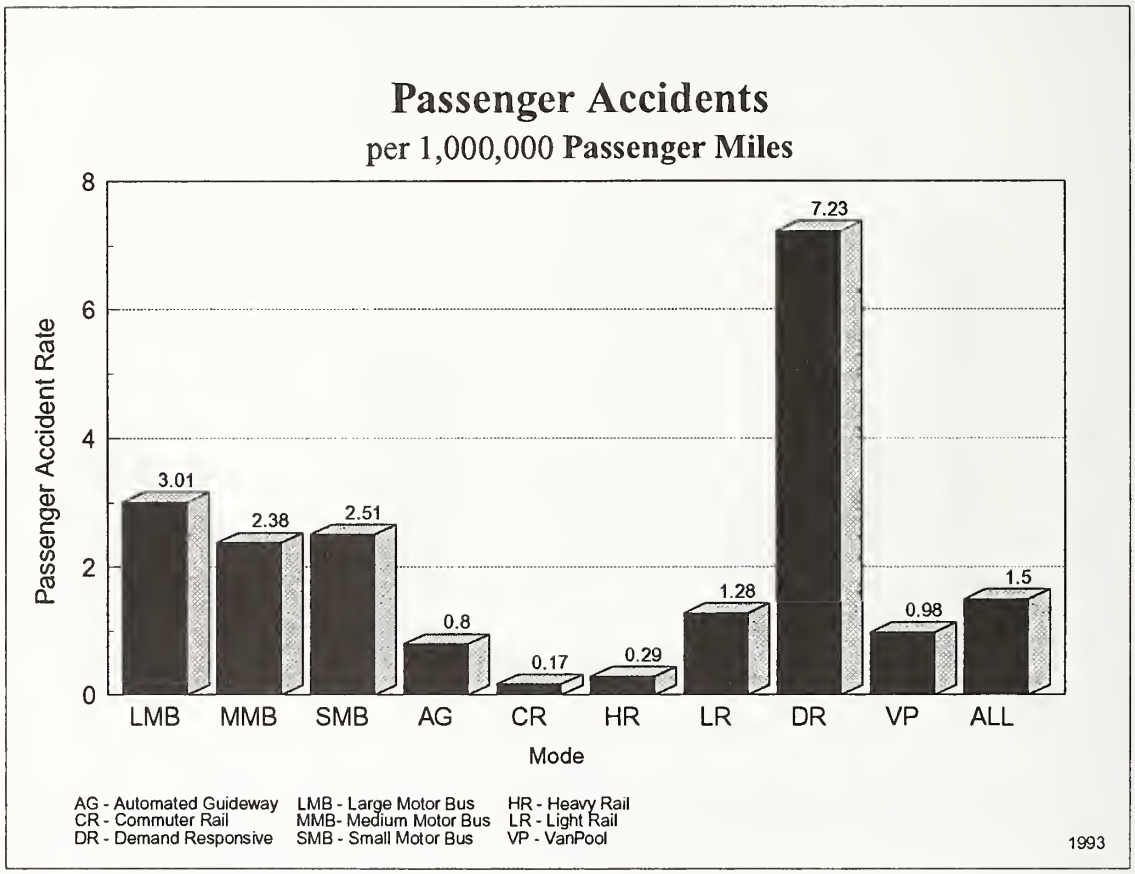
Column totals are the number of transit services not the number of transit agencies, because most agencies operate more than one transit mode

The 1993 SAMIS data presented as

# GRAPHS

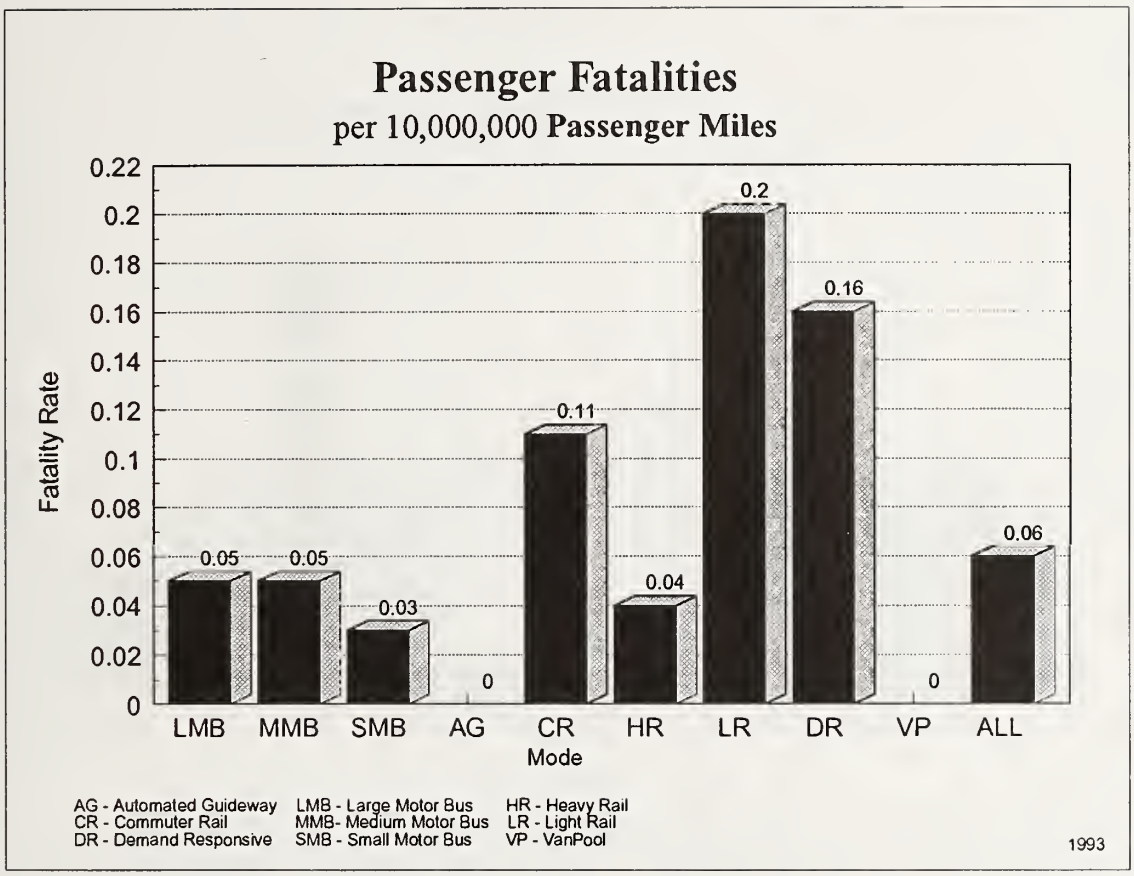



This graph shows the accident rate which is based on the number of <u>vehicle</u> accidents (incidents). These include all vehicle incidents resulting from **Collisions** [with vehicles, objects, people (not suicides)] and **Derailments** (vehicle derailed/left roadway). The number of vehicle miles includes both revenue and non-revenue miles since there are risks present during both types of operation. The three rail modes (commuter rail, heavy rail, and light rail) report car rather than train miles for vehicle miles.

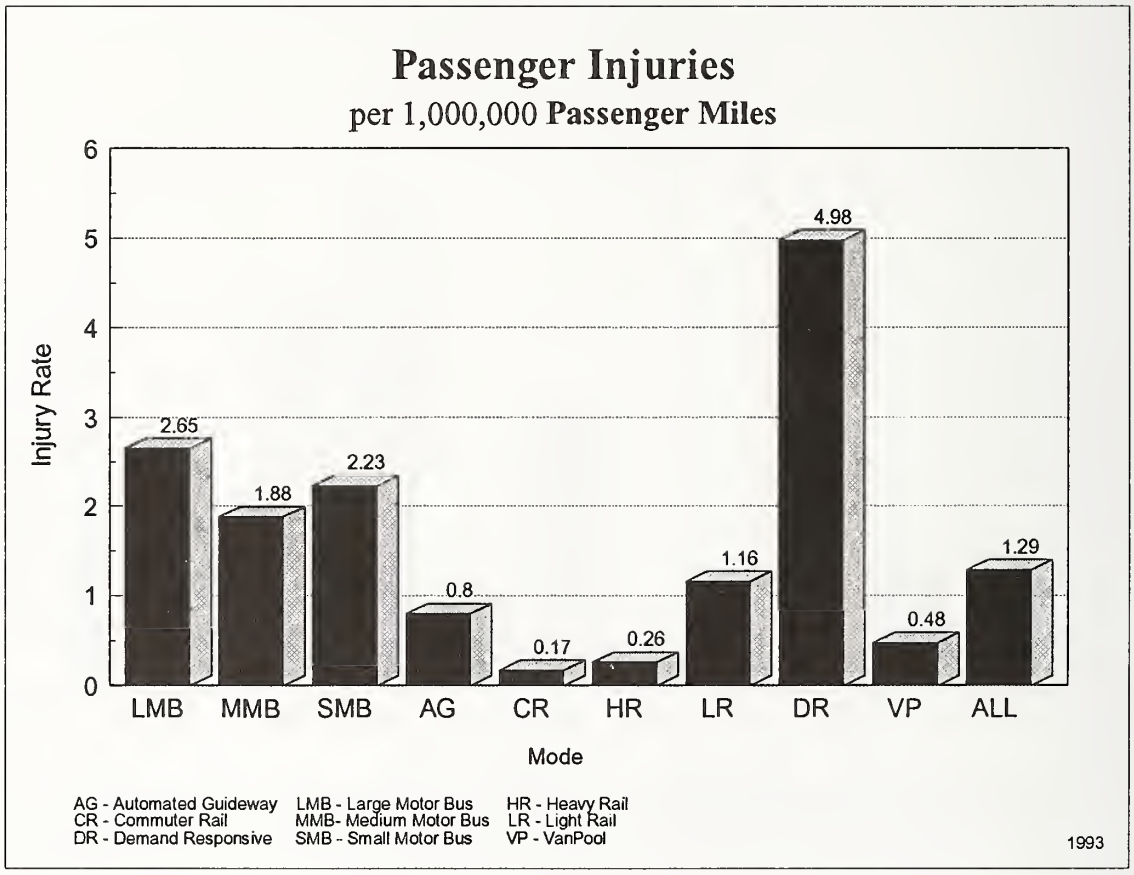



This graph shows the number of accidents (or incidents) *involving passengers* based upon the number of miles traveled by passengers. Passenger *incidents* include **Collisions** [with vehicles, objects, and people (not suicides)], **Derailments** (vehicle derailed/left roadway), and **Personal Casualties** (on the vehicle and entering/exiting the vehicle). When analyzing the results on this page, consider that the number of vehicle accidents, the number of passengers, and the average trip length all affect the passenger incident rate.

This graph differs from the previous page in that it includes **Personal Casualties** and is indexed on Passenger Miles.

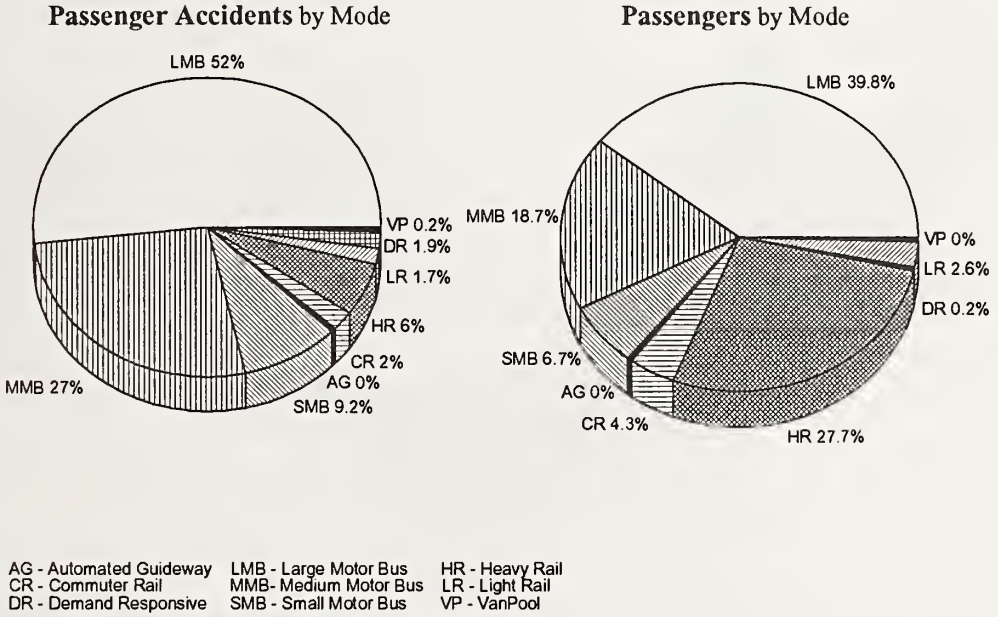



These statistics represent passenger-on-vehicle fatalities. They are *fatalities* resulting from **Collisions** [with vehicles, objects, people (not suicides)], **Derailments** (vehicle derailed/left roadway), and **Personal Casualties** (on the vehicle and entering/exiting the vehicle).




These statistics represent passenger-on-vehicle injuries. They are *injuries* resulting from **Collisions** [with vehicles, objects, people (not suicides)], **Derailments** (vehicle derailed/left roadway), and **Personal Casualties** (on the vehicle and entering/exiting the vehicle). This chart may be compared with Number of Passenger Accidents and Number of Passenger Fatalities (two previous graphs) to get a feel for the probability of dying or being injured in an accident.

## **Passenger Accidents** and **Passenger Distribution** by Transit Mode




AG - Automated Guideway
CR - Commuter Rail
DR - Demand Responsive
LMB - Large Motor Bus
MMB- Medium Motor Bus
SMB - Small Motor Bus
HR - Heavy Rail
LR - Light Rail
VP - VanPool

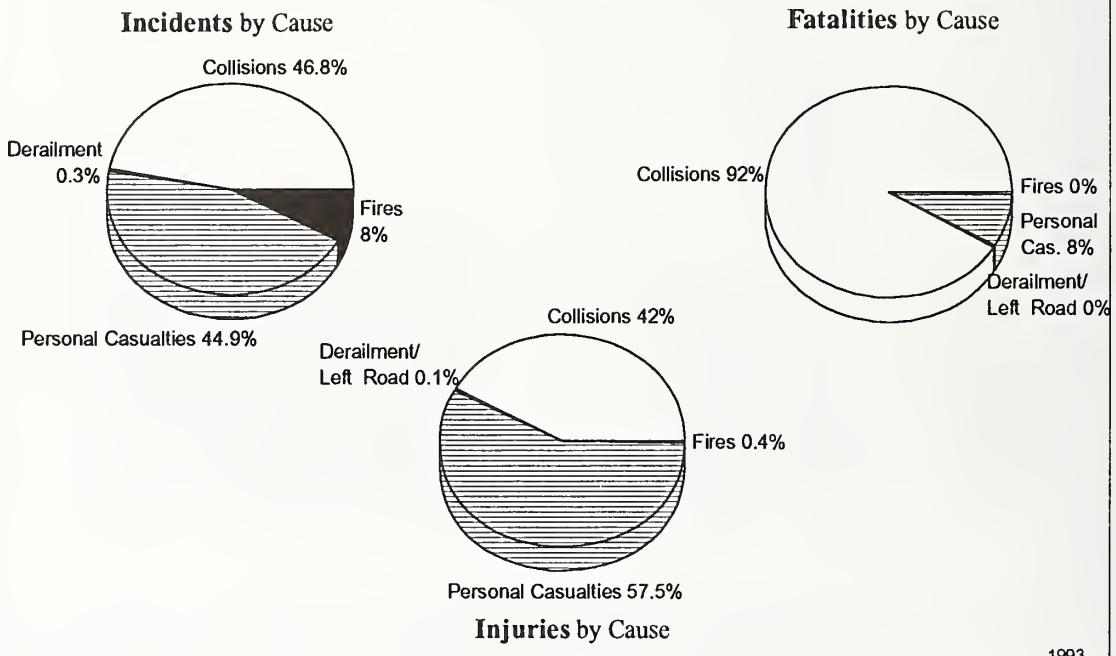
1993

The *pie chart on the left* shows the percentage of passenger accidents (or incidents) reported by each mode. The Passenger Accidents include **Collisions**, **Derailments**, and **Personal Casualties** categories. When compared, these pie charts give another view of accident rates, e.g. with about 30% of transit passengers Heavy Rail has only 5% of the total accidents. If all transit modes were equally safe, the numbers for a given transit mode would be the same in both pie charts.

The *pie chart on the right* gives the percent of total transit ridership share held by each transit mode.

In both charts, the percentages given as 0% are rounded and actually mean less than 0.1%.

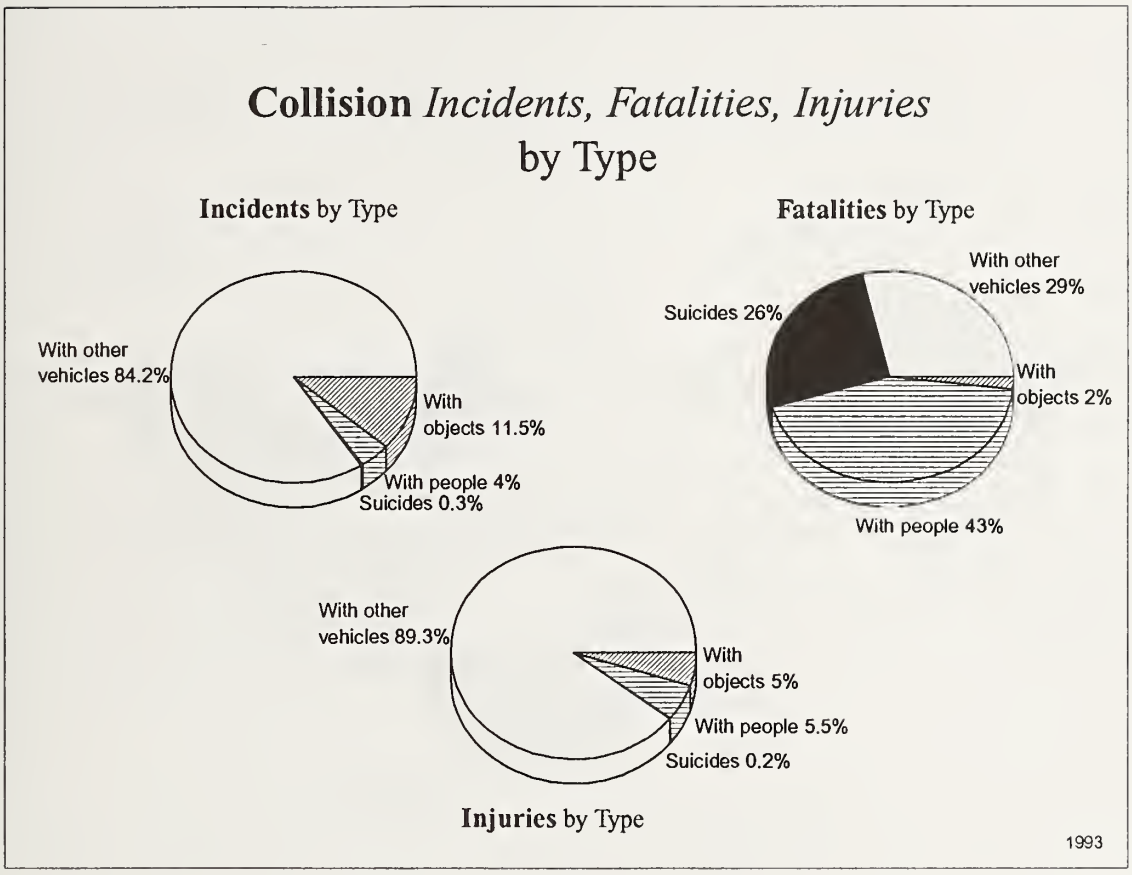
## Incidents, Fatalities, Injuries
by Cause




The *pie chart on the left* shows the percentage of individual *incidents* from all causes (**Collisions**, **Derailments**, **Personal Casualties**, and **Fires**).

The *pie chart on the right* shows the percentage of the *Fatalities* and the *pie chart in the middle* shows the *Injuries* from all causes (**Collisions**, **Derailments**, **Personal Casualties**, and **Fires**).

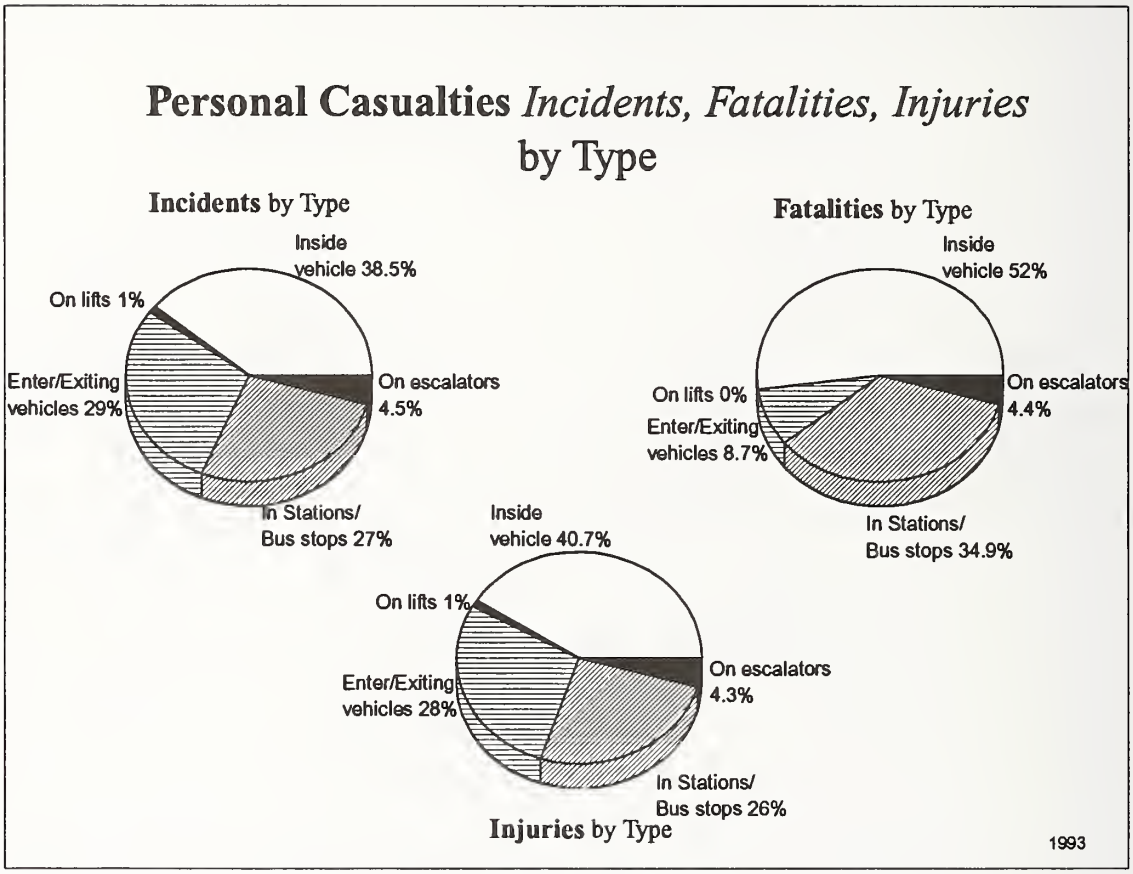
The Fatalities chart shows that Collisions are the single most contributing cause of fatalities.




The *pie chart on the left* shows the percentage of various types of *incidents* resulting from **Collisions** (with other vehicles, objects, people and suicides).

The *pie chart on the right* shows the percentage of *Fatalities,* and the *pie chart in the middle* shows the percentage of *Injuries* from various types of **Collisions** (with other vehicles, objects, people and suicides).

Comparing the three charts gives more insight into the causes of incidents, injuries, and deaths from **Collisions** (e.g., although suicides constitute negligible amount of Collision Incidents, they account for one quarter of all fatalities from Collisions). On the Injuries chart, 0.2% injuries resulting from attempted suicides shows that nearly all the suicide attempts are successful (result in death).

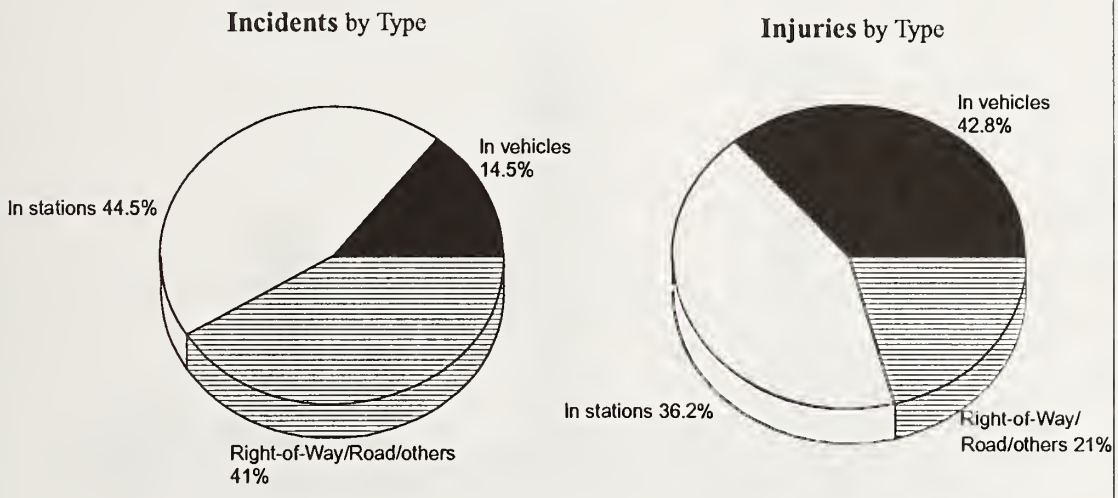



The *pie chart on the left* shows the percentage of various types of **Personal Casualty** *incidents* [inside vehicles, entering/exiting (associated with lifts), in stations/bus stops (associated with escalators)].

The *pie chart on the right* shows the percentage of *Fatalities,* and the *pie chart in the middle* shows the percentage of *Injuries* from these incidents.

Comparing the three charts gives more insight into the causes of incidents, injuries, and deaths from **Personal Casualties** categories (e.g., the almost identical incident and injury percentages, suggest that each incident of Personal Casualty results in an injury; consistent with the definition of Personal Casualties).

## **Fire** *Incidents, Fatalities, Injuries* by Type

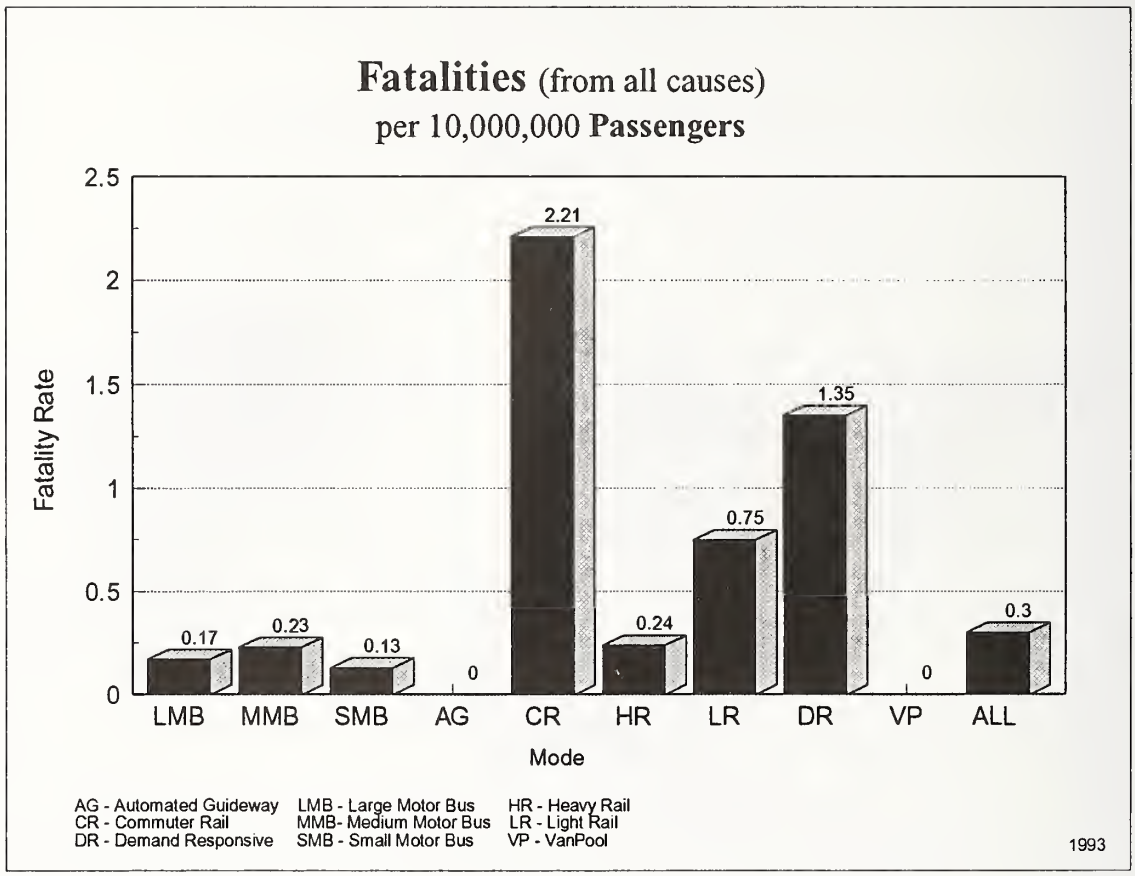



1993

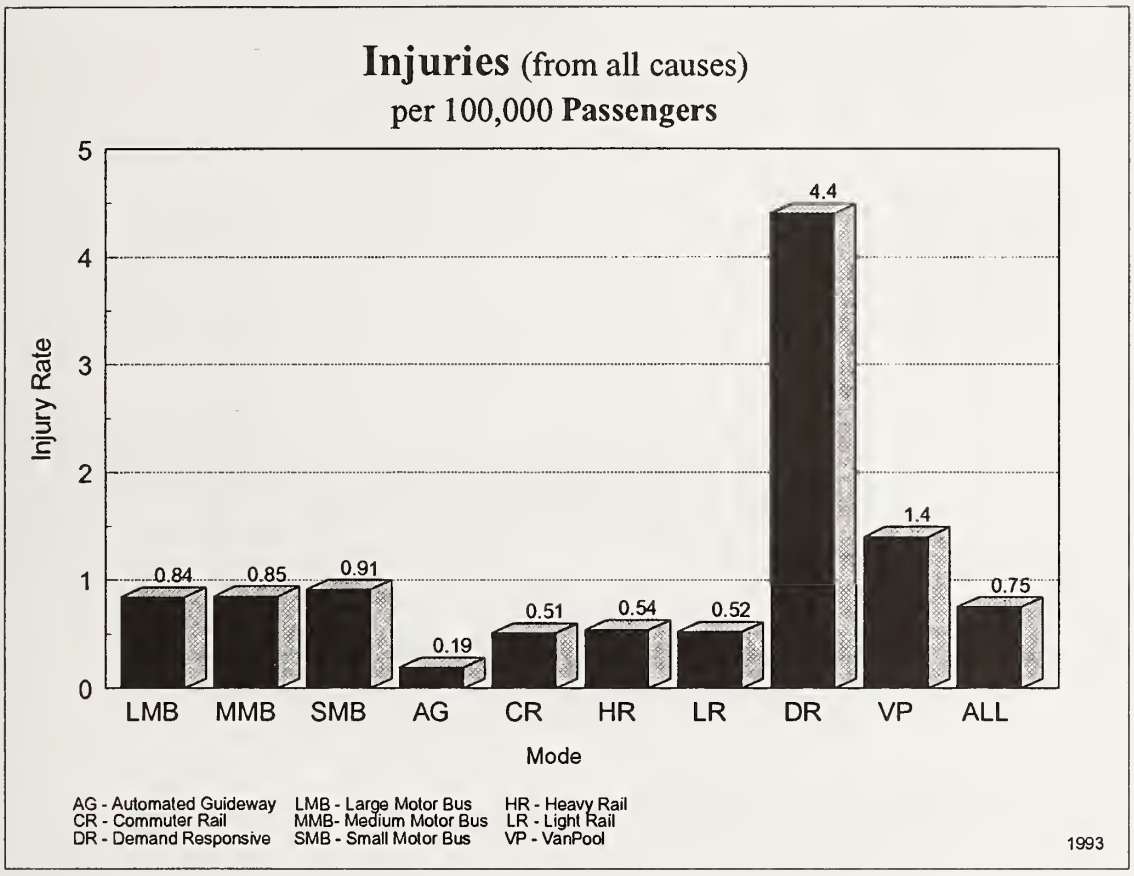
The *pie chart on the left* shows the percentage of various types of **Fire** *incidents* (in vehicles, in stations, and on right-of-way/other).

While there were no *Fatalities* from **Fires,** the *pie chart on the right* shows the percentage of *Injuries* from these incidents of Fires.

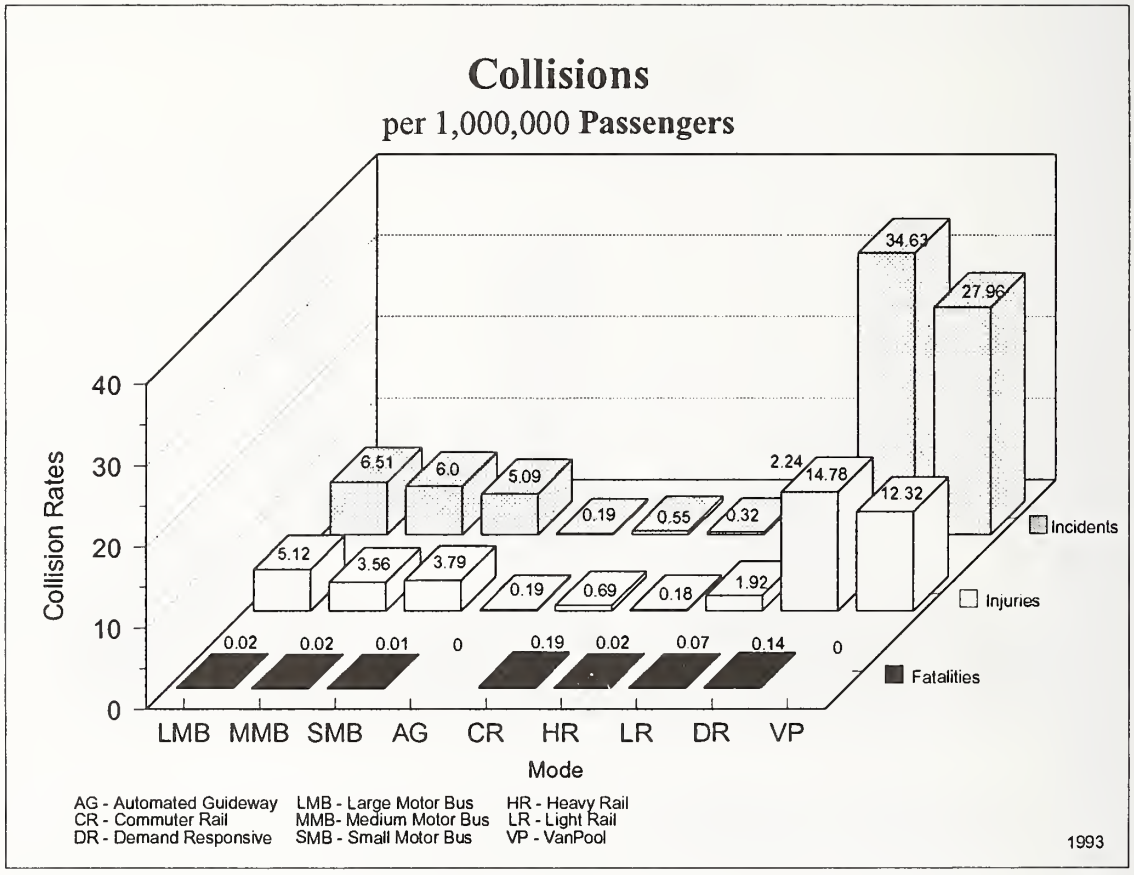
Comparing the two charts gives more insight into the types of Fires and the causes of injuries from them (e.g. a fire inside the vehicle results in more patron injuries than a fire on the road).




This graph depicts the passenger *fatality* rate, from <u>all causes</u> (except suicides), i.e., **Collisions**, **Derailments**, **Personal Casualties**, and **Fires** Categories.



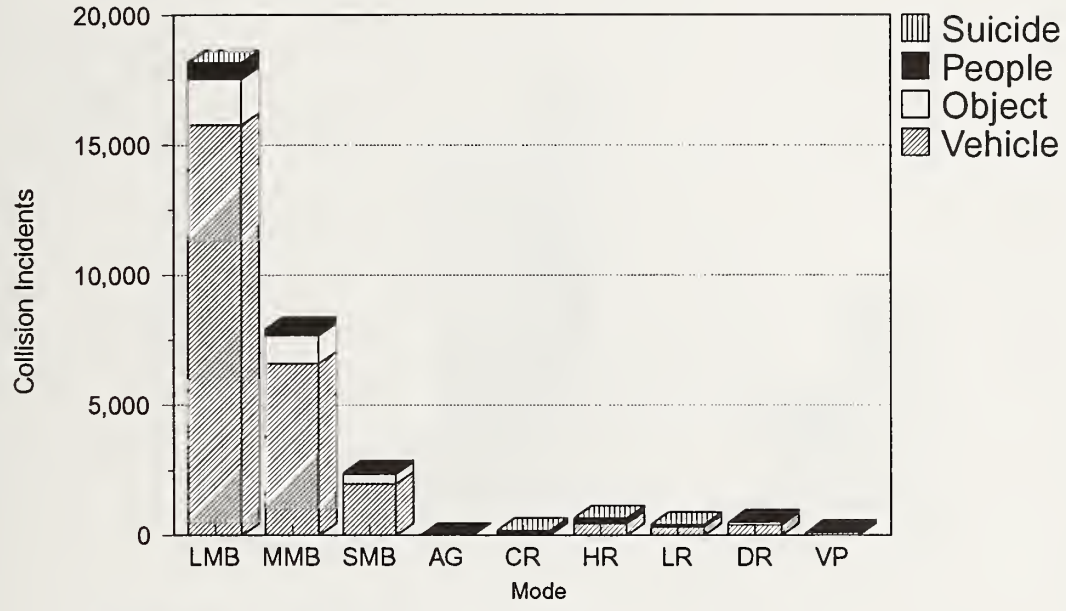

This graph depicts the passenger *injury* rate, from <u>all causes</u> (except suicides), i.e., **Collisions**, **Derailments**, **Personal Casualties**, and **Fires** Categories.




This graph shows the rates of *incidents*, *injuries*, and *fatalities* (except suicides) for the **Collisions** category of Form 405.

The rates show how often incidents, deaths, and injuries occur, based on passenger exposure to risk. These rates should be kept in mind when looking at the next three figures which give only raw numbers. The raw numbers alone do not give a full idea about relative safety without data on exposure which is provided here.

## **Incidents** of *Collision*

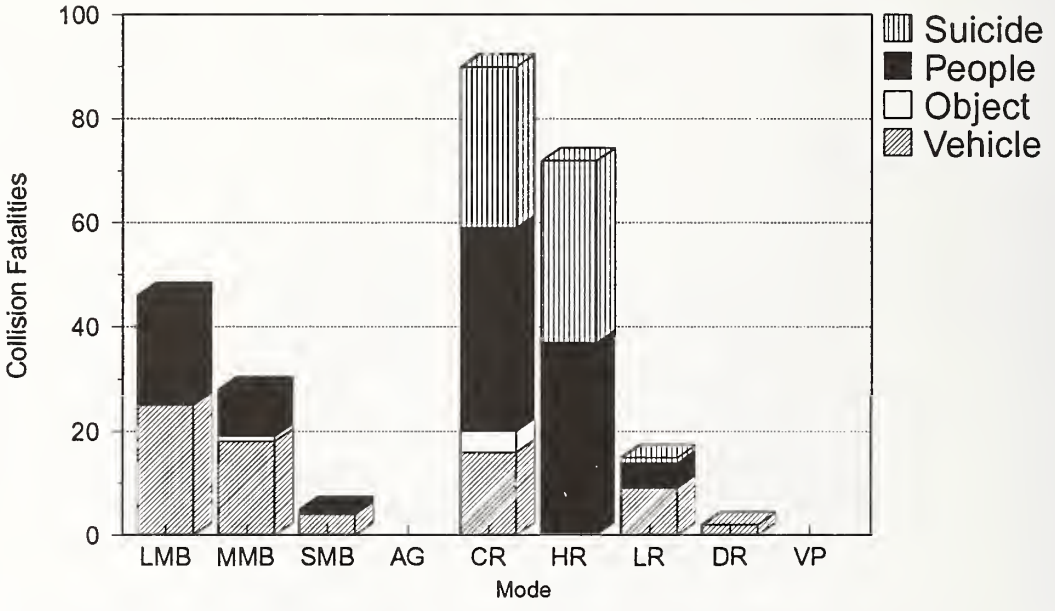



AG - Automated Guideway
CR - Commuter Rail
DR - Demand Responsive
LMB - Large Motor Bus
MMB- Medium Motor Bus
SMB - Small Motor Bus
HR - Heavy Rail
LR - Light Rail
VP - VanPool

1993

This graph breaks down by type the *incidents* resulting from **Collisions** (with vehicles, objects, and people).

## **Fatalities** Resulting from ***Collisions***

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MMB- Medium Motor Bus
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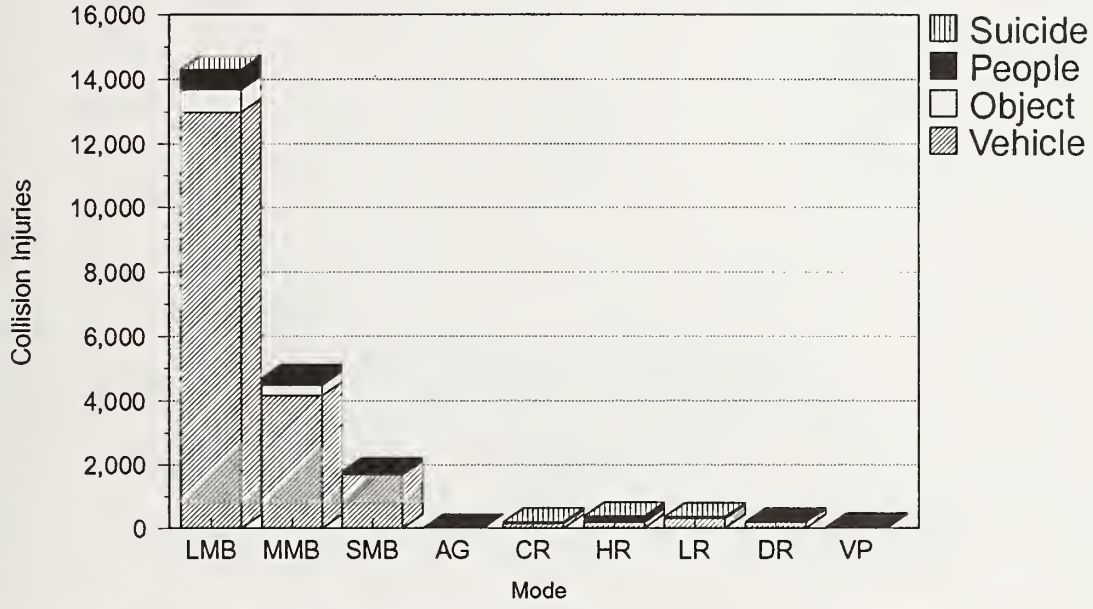
LR - Light Rail
VP - VanPool

1993

This graph breaks down by type the *fatalities* resulting from **Collisions** (with vehicles, objects, and people).

## **Injuries** Resulting from ***Collisions***

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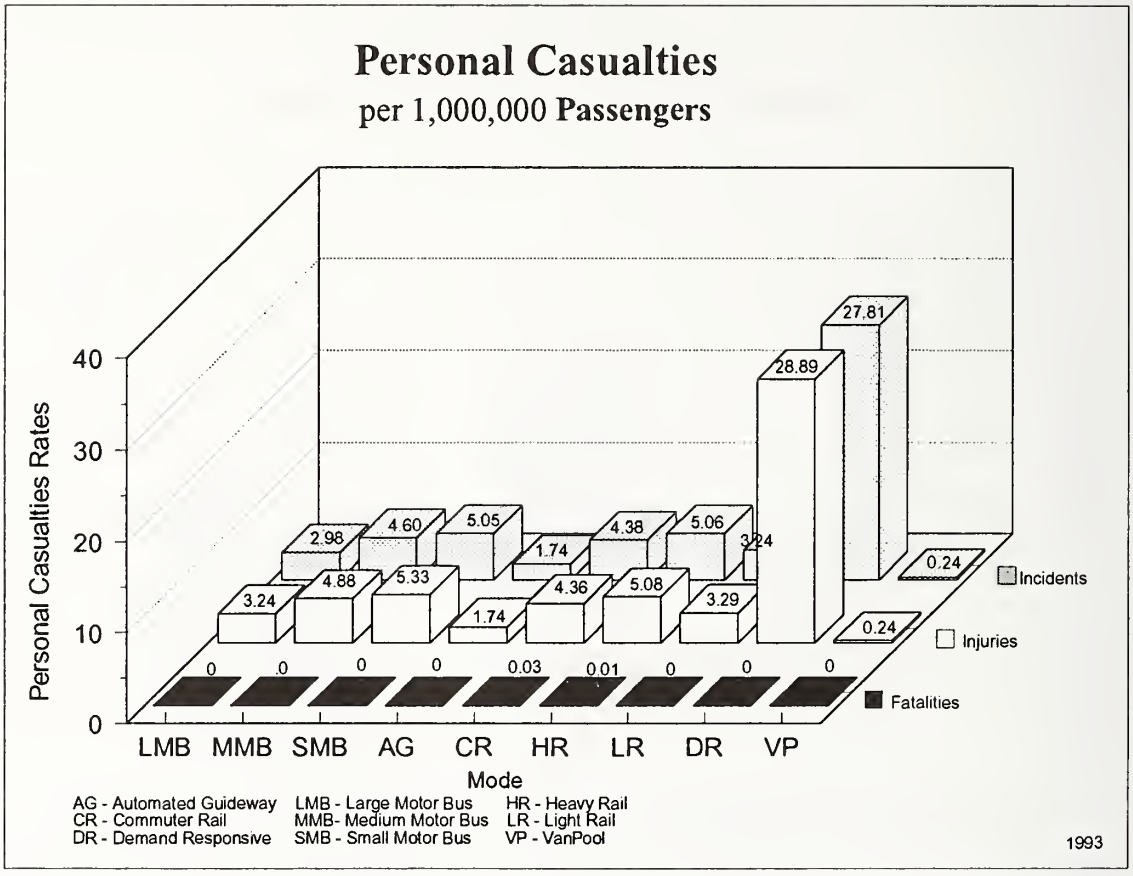
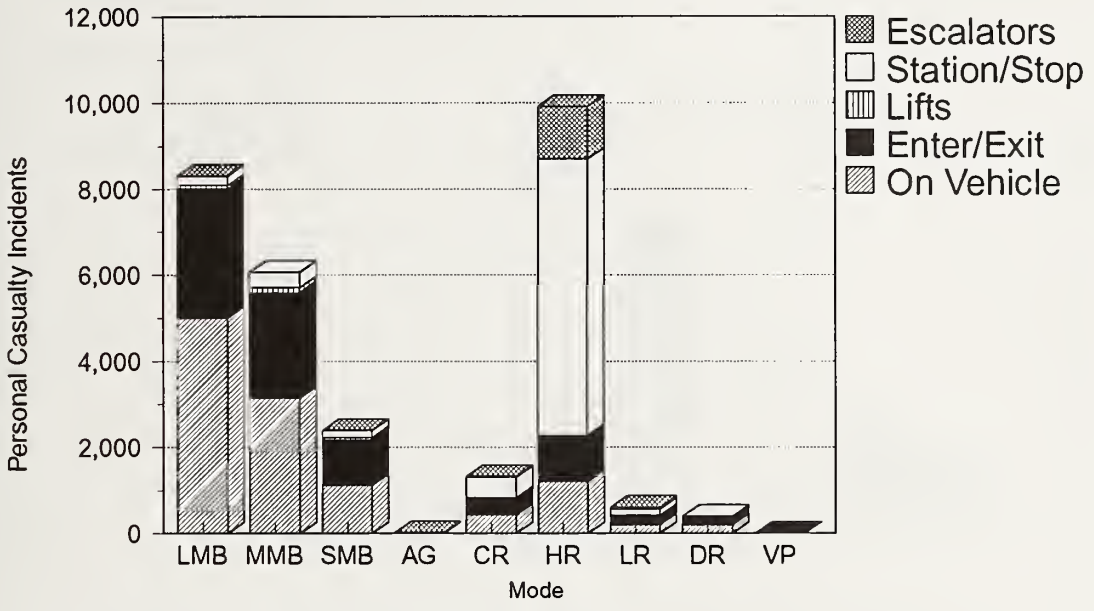
1993

This graph breaks down by type the *injuries* resulting from **Collisions** (with vehicles, objects, and people).




This graph provides the rates by transit mode for *incidents, fatalities,* and *injuries* classified under the **Personal Casualties** category of Form 405. Keep in mind that **Personal Casualties** is a transit mishap *category* (in Form 405) where people are hurt but <u>not</u> as a result of Collisions, Derailments, or Fires. The rates show how often incidents, deaths, and injuries occur, based on passenger exposure to risk. These rates should be kept in mind when looking at the next three figures which give only raw numbers. The raw numbers alone do not give a full idea about relative safety without data on exposure which is provided here.

## Incidents of *Personal Casualties*

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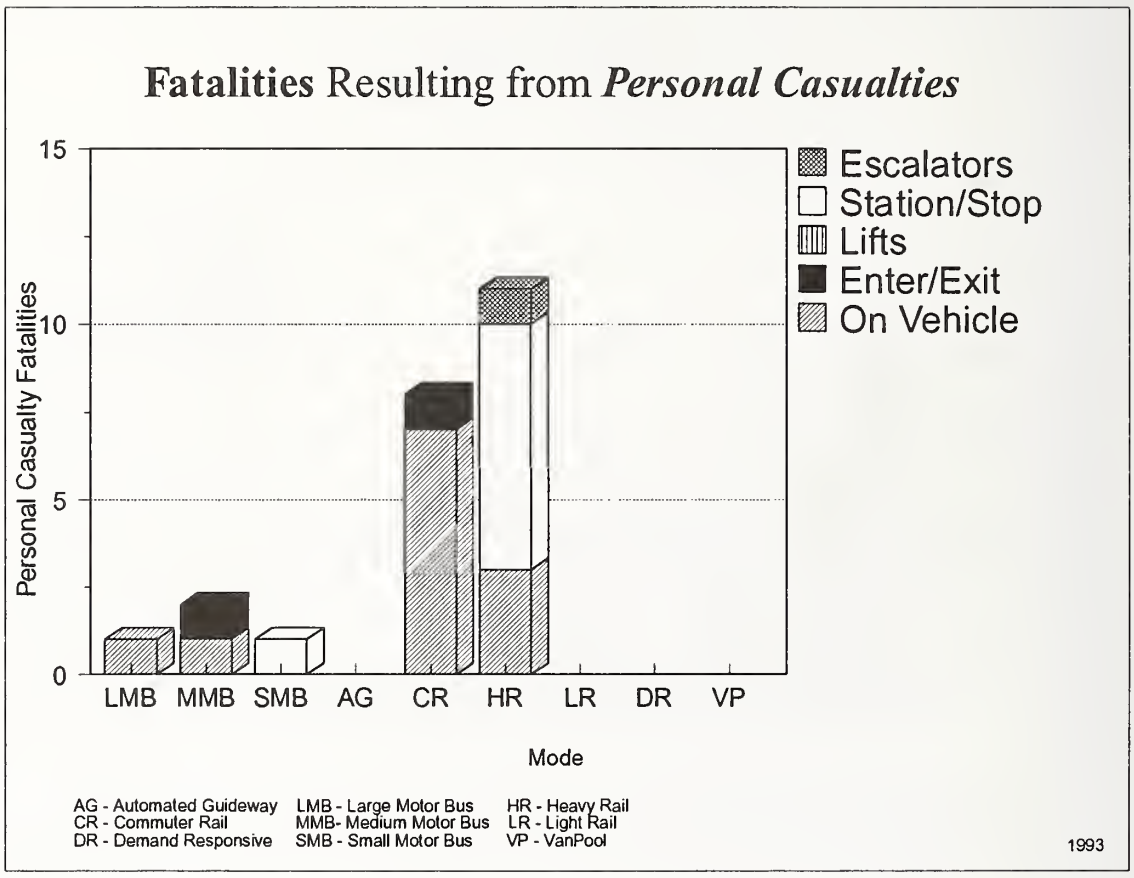
1993

This graph breaks down by type the *incidents* that are classified under the **Personal Casualties** category of Form 405 (on vehicle, entering/exiting, lifts, station/stop, escalators).

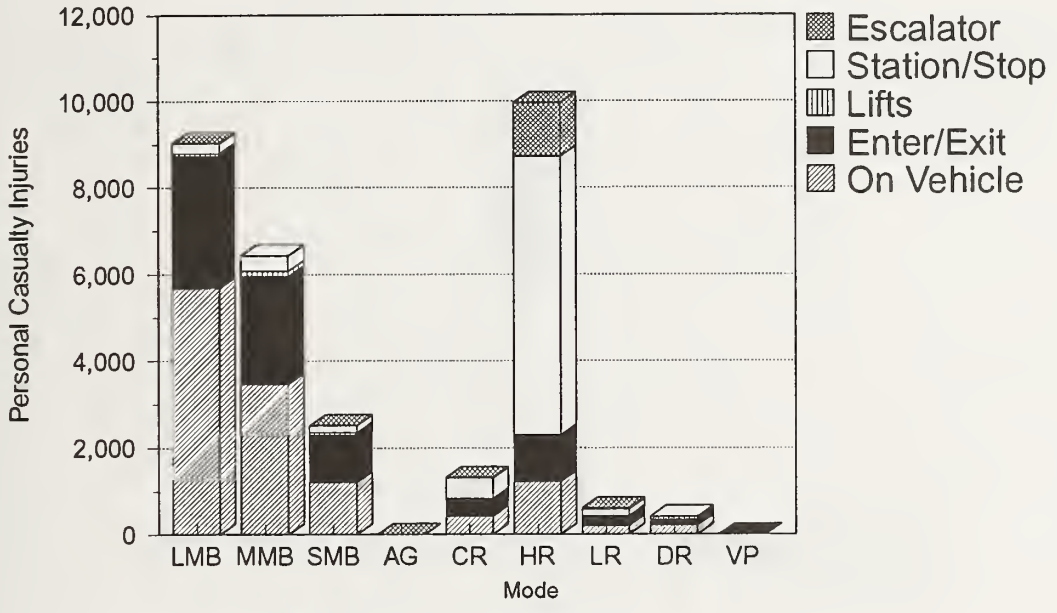
Keep in mind that **Personal Casualties** is a transit mishap *category* (in Form 405) where people are hurt but <u>not</u> as a result of Collisions, Derailments, or Fires.




This graph breaks down by type the *fatalities* that are classified under the **Personal Casualties** category of Form 405 (on vehicle, entering/exiting, lifts, station/stop, escalators).

Although at first the title of the graph may seem awkward, keep in mind that **Personal Casualties** is a transit mishap *category* (in Form 405) where people are hurt but <u>not</u> as a result of Collisions, Derailments, or Fires.

## **Injuries** Resulting from *Personal Casualties*

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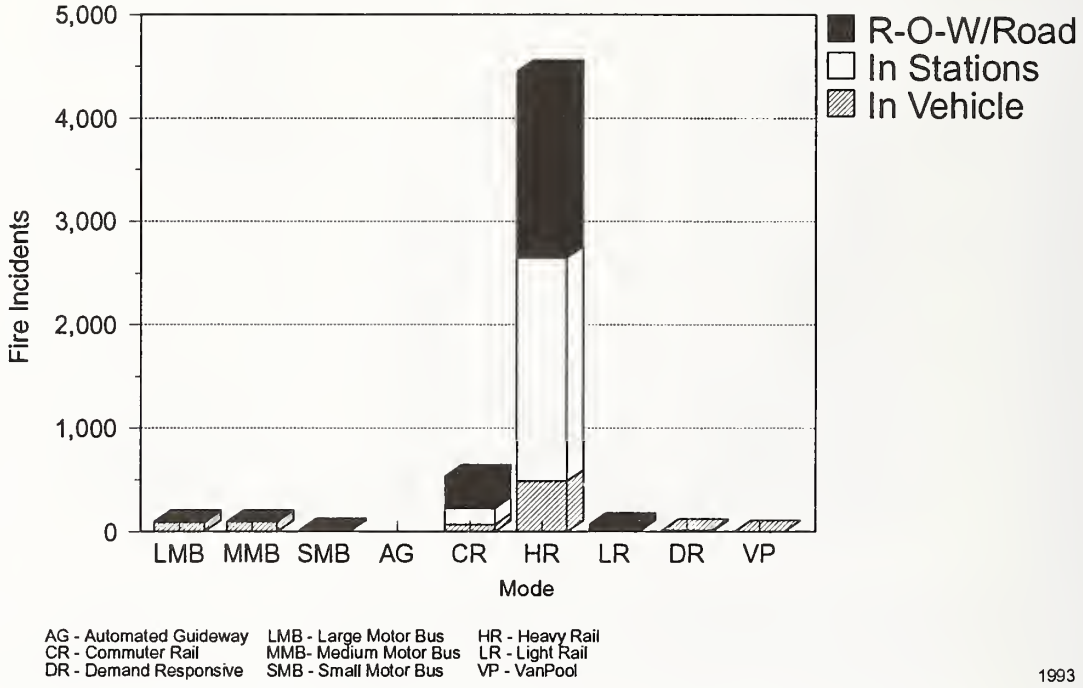
VP - VanPool

1993

This graph breaks down by type the *injuries* that are classified under the **Personal Casualties** category of Form 405 (on vehicle, entering/exiting, lifts, station/stop, escalators).

Although at first the title of the graph may seem awkward, keep in mind that **Personal Casualties** is a transit mishap *category* (in Form 405) where people are hurt but not as a result of Collisions, Derailments, or Fires.

## Incidents of *Fires*

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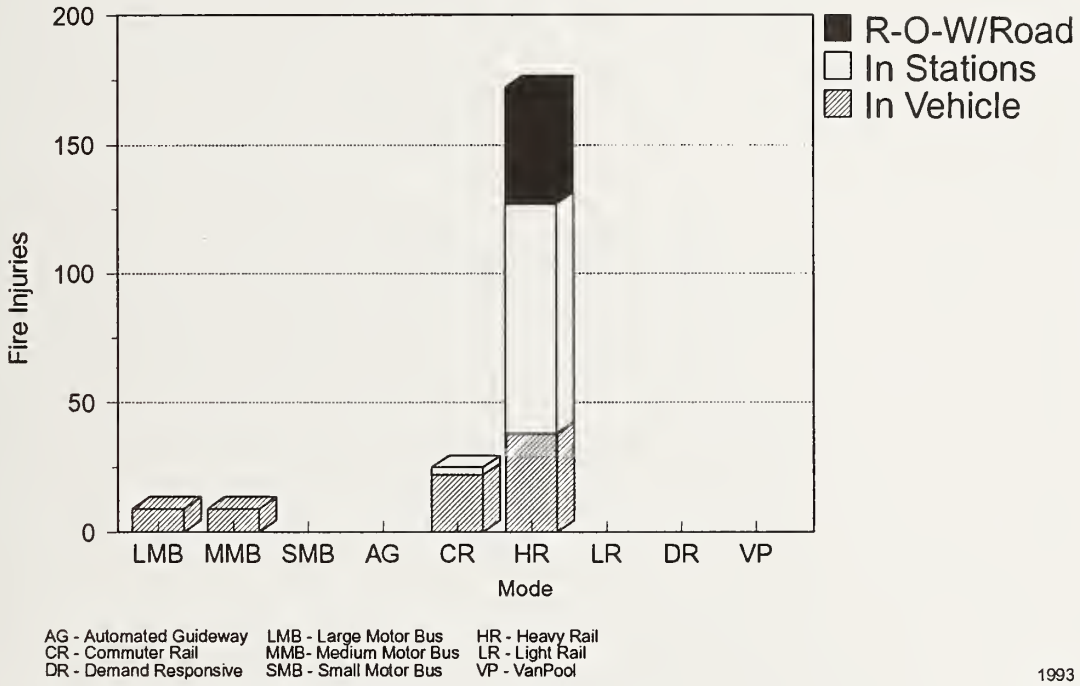
LR - Light Rail
VP - VanPool

1993

This graph breaks down by type the *incidents* of **Fires** (in vehicles, in stations, and on Right-of-Way/Road and others). While there were relatively few incidents of Fires, this graph clearly shows that the vast majority of them occurred in Heavy Rail (mode) Stations and Right-of-Way.

## **Injuries** Resulting from ***Fires***




AG - Automated Guideway LMB - Large Motor Bus HR - Heavy Rail
CR - Commuter Rail MMB- Medium Motor Bus LR - Light Rail
DR - Demand Responsive SMB - Small Motor Bus VP - VanPool

1993

There is no graph of fatalities from Fires because *there were no fatalities resulting from Fires.*

The above graph breaks down by type the *injuries* resulting from **Fires** (in vehicles, in stations, and on Right-of-Way/Road and others).

1993 SAMIS data in

# TABLES

# COLLISIONS
## by Mode

### INCIDENTS

| Mode | Vehicle | Object | People* | Suicide |
|---|---|---|---|---|
| LMB | 15,759 | 1,753 | 666 | 1 |
| MMB | 6,580 | 1,079 | 245 | 0 |
| SMB | 1,973 | 368 | 69 | 0 |
| AG | 0 | 0 | 1 | 0 |
| CR | 56 | 35 | 112 | 37 |
| HR | 443 | 77 | 162 | 52 |
| LR | 331 | 35 | 58 | 5 |
| DR | 391 | 111 | 11 | 0 |
| VP | 105 | 12 | 1 | 0 |
| ALL | 25,638 | 3,470 | 1,325 | 95 |

### FATALITIES

| Mode | Vehicle | Object | People* | Suicide |
|---|---|---|---|---|
| LMB | 25 | 0 | 21 | 0 |
| MMB | 18 | 1 | 9 | 0 |
| SMB | 4 | 0 | 1 | 0 |
| AG | 0 | 0 | 0 | 0 |
| CR | 16 | 4 | 70 | 31 |
| HR | 0 | 0 | 72 | 35 |
| LR | 9 | 0 | 6 | 1 |
| DR | 2 | 0 | 0 | 0 |
| VP | 0 | 0 | 0 | 0 |
| ALL | 74 | 5 | 179 | 67 |

### INJURIES

| Mode | Vehicle | Object | People* | Suicide |
|---|---|---|---|---|
| LMB | 12,973 | 703 | 636 | 1 |
| MMB | 4,151 | 316 | 228 | 0 |
| SMB | 1,679 | 53 | 63 | 0 |
| AG | 0 | 0 | 1 | 0 |
| CR | 148 | 12 | 55 | 5 |
| HR | 192 | 13 | 189 | 32 |
| LR | 305 | 7 | 51 | 4 |
| DR | 189 | 19 | 11 | 0 |
| VP | 50 | 1 | 1 | 0 |
| ALL | 19,687 | 1,124 | 1,235 | 42 |

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* People figures include Suicides.

# PERSONAL CASUALTIES
## by Mode

### INCIDENTS

| Mode | On Vehicle | Enter/Exit* | Lifts | Station/Stop** | Escalators |
|---|---|---|---|---|---|
| LMB | 4,998 | 3,082 | 69 | 229 | 5 |
| MMB | 3,136 | 2,570 | 108 | 356 | 0 |
| SMB | 1,112 | 1,115 | 57 | 167 | 3 |
| AG | 4 | 0 | 0 | 5 | 2 |
| CR | 427 | 411 | 0 | 488 | 21 |
| HR | 1,205 | 1,075 | 0 | 7,636 | 1,221 |
| LR | 185 | 247 | 6 | 175 | 33 |
| DR | 196 | 192 | 47 | 24 | 0 |
| VP | 0 | 1 | 0 | 0 | 0 |
| ALL | 11,263 | 8,693 | 287 | 9,080 | 1,285 |

### FATALITIES

| Mode | On Vehicle | Enter/Exit* | Lifts | Station/Stop** | Escalators |
|---|---|---|---|---|---|
| LMB | 1 | 0 | 0 | 0 | 0 |
| MMB | 1 | 1 | 0 | 0 | 0 |
| SMB | 0 | 0 | 0 | 1 | 0 |
| AG | 0 | 0 | 0 | 0 | 0 |
| CR | 7 | 1 | 0 | 0 | 0 |
| HR | 3 | 0 | 0 | 8 | 1 |
| LR | 0 | 0 | 0 | 0 | 0 |
| DR | 0 | 0 | 0 | 0 | 0 |
| VP | 0 | 0 | 0 | 0 | 0 |
| ALL | 12 | 2 | 0 | 9 | 1 |

### INJURIES

| Mode | On Vehicle | Enter/Exit* | Lifts | Station/Stop** | Escalators |
|---|---|---|---|---|---|
| LMB | 5,670 | 3,130 | 71 | 238 | 5 |
| MMB | 3,459 | 2,611 | 116 | 357 | 0 |
| SMB | 1,208 | 1,145 | 57 | 174 | 3 |
| AG | 4 | 0 | 0 | 5 | 2 |
| CR | 421 | 411 | 0 | 488 | 21 |
| HR | 1,211 | 1,078 | 0 | 7,674 | 1,239 |
| LR | 193 | 247 | 6 | 177 | 33 |
| DR | 204 | 200 | 52 | 24 | 0 |
| VP | 0 | 1 | 0 | 0 | 0 |
| ALL | 12,370 | 8,823 | 302 | 9,137 | 1,303 |

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LR - Light Rail
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* Enter/Exit figures include the Lift figures.
** Station/Stop figures include the Escalator figures.

# FIRES
## by Mode

### INCIDENTS

| Mode | Vehicle | Station | R-O-W/Road |
|---|---|---|---|
| LMB | 89 | 3 | 7 |
| MMB | 90 | 6 | 4 |
| SMB | 14 | 4 | 1 |
| AG | 0 | 0 | 0 |
| CR | 66 | 157 | 317 |
| HR | 487 | 2,159 | 1,806 |
| LR | 11 | 19 | 45 |
| DR | 10 | 0 | 0 |
| VP | 1 | 0 | 0 |
| ALL | 768 | 2,348 | 2,180 |

### FATALITIES

| Mode | Vehicle | Station | R-O-W/Road |
|---|---|---|---|
| LMB | 0 | 0 | 0 |
| MMB | 0 | 0 | 0 |
| SMB | 0 | 0 | 0 |
| AG | 0 | 0 | 0 |
| CR | 0 | 0 | 0 |
| HR | 0 | 0 | 0 |
| LR | 0 | 0 | 0 |
| DR | 0 | 0 | 0 |
| VP | 0 | 0 | 0 |
| ALL | 0 | 0 | 0 |

### INJURIES

| Mode | Vehicle | Station | R-O-W/Road |
|---|---|---|---|
| LMB | 9 | 0 | 0 |
| MMB | 9 | 0 | 0 |
| SMB | 0 | 0 | 0 |
| AG | 0 | 0 | 0 |
| CR | 22 | 3 | 0 |
| HR | 38 | 89 | 45 |
| LR | 0 | 0 | 0 |
| DR | 0 | 0 | 0 |
| VP | 0 | 0 | 0 |
| ALL | 78 | 92 | 45 |

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SMB - Small Motor Bus
HR - Heavy Rail
LR - Light Rail
VP - Van Pool

# DERAILMENT OR LEFT ROADWAY
## by Mode

| Mode | Incidents | Fatalities | Injuries |
|---|---|---|---|
| LMB | 40 | 0 | 34 |
| MMB | 43 | 0 | 22 |
| SMB | 22 | 0 | 5 |
| AG | 0 | 0 | 0 |
| CR | 42 | 0 | 0 |
| HR | 32 | 0 | 3 |
| LR | 30 | 0 | 2 |
| DR | 11 | 0 | 5 |
| VP | 1 | 0 | 6 |
| ALL | 221 | 0 | 77 |

LMB - Large Motor Bus
MMB - Medium Motor Bus
SMB - Small Motor Bus
AG - Automated Guideway
CR - Commuter Rail
HR - Heavy Rail
LR - Light Rail
DR - Demand Reponsive
VP - Van Pool

# OPERATING STATISTICS

| Mode | Vehicle Miles | Passengers | Passenger Miles | Property Damage |
|---|---|---|---|---|
| LMB | 812,012,373 | 2,792,806,711 | 8,735,111,887 | $13,091,179.00 |
| MMB | 595,797,608 | 1,318,147,322 | 5,747,356,634 | $9,440,339.09 |
| SMB | 282,306,693 | 473,672,717 | 1,859,062,717 | $7,971,834.93 |
| AG | 957,742 | 5,163,965 | 6,276,663 | $0.00 |
| CR | 206,398,036 | 302,598,857 | 6,210,811,478 | $9,003,757.00 |
| HR | 517,685,338 | 1,960,305,314 | 10,129,682,552 | $3,911,643.00 |
| LR | 27,395,870 | 187,336,419 | 688,961,513 | $801,082.21 |
| DR | 76,793,858 | 14,814,835 | 126,183,364 | $547,062.09 |
| VP | 15,988,994 | 4,220,764 | 122,923,428 | $157,835.00 |
| ALL | 2,535,336,512 | 7,059,066,904 | 33,626,370,236 | $44,924,732.32 |

# TOTAL* OF INCIDENTS, FATALITIES, INJURIES & PROPERTY DAMAGE

| Mode | Incidents | Fatalities | Injuries | Property Damage |
|---|---|---|---|---|
| LMB | 26,626 | 47 | 23,393 | $13,091,179.00 |
| MMB | 14,109 | 30 | 11,153 | $9,440,339.09 |
| SMB | 4,845 | 6 | 4,327 | $7,971,834.93 |
| AG | 10 | 0 | 10 | $0.00 |
| CR | 2,111 | 98 | 1,560 | $9,003,757.00 |
| HR | 15,082 | 83 | 10,532 | $3,911,643.00 |
| LR | 1,136 | 15 | 982 | $801,082.21 |
| DR | 946 | 2 | 652 | $547,062.09 |
| VP | 121 | 0 | 59 | $157,835.00 |
| ALL | 64,986 | 281 | 52,668 | $44,924,732.32 |

* These are the totals of Collisions, Derailments, Personal Casualties & Fires.

# TOTALS OF ALL ORGANIZATIONS IN FORM 405 FORMAT

Org. id: ALL
Mode: ALL

FORM 405
Transit Safety
Fiscal Year: 12/31/93

Totals of All Organizations

| a | | b | c | d |
|---|---|---|---|---|
| Line | Items | Incidents | Fatalities | Injuries |
| | COLLISIONS | | | |
| 01 | Collision with other vehicles | 25,638 | 74 | 19,687 |
| 02 | Collision with objects | 3,470 | 5 | 1,124 |
| 03 | Collision with people | 1,325 | 179 | 1,235 |
| 03a | (Attempted/successful suicides) | ( 95 ) | ( 67 ) | ( 42 ) |
| | NON-COLLISIONS | | | |
| | Derailments | | | |
| 04 | Derailments/buses going off road | 221 | 0 | 77 |
| | Personal casualties | | | |
| 05 | Inside vehicle | 11,263 | 12 | 12,370 |
| 06 | Boarding and alighting vehicle | 8,693 | 2 | 8,823 |
| 06a | (Associated with lifts) | ( 287 ) | ( 0 ) | ( 302 ) |
| 07 | In Stations/bus stops | 9,080 | 9 | 9,137 |
| 07a | (Associated with escalators) | ( 1,285 ) | ( 1 ) | ( 1,303 ) |
| | Fires (no-thresholds) | | | |
| 08 | In vehicles | 768 | 0 | 78 |
| 09 | In stations | 2,348 | 0 | 92 |
| 10 | Right of way & others | 2,180 | 0 | 45 |
| 11 | T O T A L S | 64,986 | 281 | 52,668 |
| 12 | Transit property damage | Dollar Amount $44,924,732.32 | | |

Date Prepared: 03/22/95
Date Updated:

# Transit Agencies by State*

| | |
|---|---|
| Alabama | Birmingham-Max |
| | Gadsden-Dial-A-Ride |
| | Huntsville |
| | Mobile-MTA |
| | Montgomery-Autauga |
| | Montgomery-Community |
| | Montgomery-MAT |
| | NW Alabama COLG |
| | Tuscaloosa-CP&TA |
| Alaska | Municipality of Anchorage |
| Arizona | Peoria Transit |
| | Phoenix-Glendale |
| | Phoenix-Phoenix TS/ATC |
| | Phoenix-Sun Cities-SCAT |
| | Phoenix-Surprise |
| | Tucson-Sun Tran |
| Arkansas | Fayetteville-CRG |
| | Fayetteville-Springdale |
| | Little Rock-CAT |
| | Pine Bluff Transit |
| California | Bakersfield-GET |
| | Davis-UNITRANS |
| | Fresno-FAX |
| | LA-Commerce |
| | LA-Culver City |
| | LA-Gardena Bus Line |
| | LA-LACMTA/SCRTD |
| | LA-La Mirada |
| | LA-Laguna Beach |
| | LA-Long Beach Transit |
| | LA-Montebello |
| | LA-Norwalk |
| | LA-OCTA |
| | LA-Santa Monica |
| | LA-Torrance |
| | Merced |
| | Modesto-MAX |
| | Monterey-MST |
| | Oakland-AC Transit |
| | Oakland-County Connection |
| | Oxnard-SCAT |
| | Palm Springs-SunBus |
| | Riverside Special Trans. |
| | Riverside-RTA |
| | SF-Golden Gate |
| | SF-SamTrans |
| | Sacramento-RT |
| | San Bernardino-OMNITRANS |
| | San Diego Transit |
| | San Diego- The Trolley |
| | San Diego-NCTD |
| | San Francisco-BART |
| | San Francisco-Muni |
| | San Jose-SCCTD |
| | Santa Barbara-MTD |
| | Santa Cruz-METRO |
| California | Santa Rosa-City Bus |
| | Simi Valley Transit |
| | Stockton-SMART |
| Colorado | Colorado Springs Transit |
| | Denver-RTD |
| | Fort Collins-Transfort |
| | Greeley-The Bus |
| | Pueblo-CityBus |
| Connecticut | Bridgeport-VTD |
| | Danbury-HART |
| | Greater Bridgeport TD |
| | Hartford-CT Transit |
| | NY-Carey Transportation |
| | New Britain-Dattco, Inc. |
| | New Haven-CT Transit |
| | New Haven-NET |
| | New London-SEAT |
| | Norwalk-Wheels |
| | Stamford Dial-A-Ride |
| | Stamford-CT Transit |
| | Westport Transit District |
| Delaware | Delaware-DAST |
| | Wilmington-DART |
| Dist. of Col. | Washington-WMATA |
| Florida | Bradenton-MCT |
| | Brevard-SCAT |
| | Clearwater-Pasco Shuttle |
| | Daytona Beach-STS |
| | Daytona Beach-VOTRAN |
| | Ft. Lauderdale-Bct |
| | Ft. Myers-LeeTran |
| | Gainesville-RTS |
| | Jacksonville-JTA |
| | Miami-MDTA |
| | Okaloosa County |
| | Orlando-LYNX |
| | Panama City-Bay Council |
| | Pensacola-ECTS |
| | Sarasota-SCTA |
| | St. Petersburg-PSTA |
| | Tallahassee-TALTRAN |
| | Tampa-Hartline |
| | West Palm-CoTran |
| Georgia | Albany-ATS |
| | Athens-ATS |
| | Atlanta-Douglas County |
| | Atlanta-MARTA |
| | Augusta-APT |
| | Columbus-METRA |
| | Rome-Transit Department |
| | Savannah-CAT |
| Hawaii | Aloha-State Tour & Transp |
| | Honolulu-DTS |

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* The data in this report are collected from these transit agencies.

| | |
|---|---|
| Hawaii | Honolulu-HDOT-Mayflower |
| Idaho | Boise Urban Stages |
| | Pocatello Urban Transit |
| Illinois | Bloomington-Normal |
| | Champaign-Urbana-MTD |
| | Chicago-Metra/BN RR |
| | Chicago-Metra/C&NW RR |
| | Chicago-RTA-CTA |
| | Chicago-RTA-Metra |
| | Chicago-RTA-Pace |
| | Decatur-DPTS |
| | Peoria-GP Transit |
| | Peoria-Pekin Municipal |
| | Rock Island-Metro Link |
| | Rockford-Loves Park |
| | Rockford-RMTD |
| | Springfield-SMTD |
| Indiana | Bloomington-BPT |
| | City of Kokomo |
| | Evansville-METS |
| | Fort Wayne-PTC |
| | Indianapolis-Metro |
| | Lafayette-GLPTC |
| | Muncie-MITS |
| | NW IN-East Chicago |
| | NW IN-GNS |
| | NW IN-Gary-GPTC |
| | NW IN-HYC |
| | NW IN-Lake County |
| | NW IN-NICTD |
| | NW IN-Portage |
| | NW IN-Porter County |
| | NW IN-SCMH |
| | NW IN-Trade Winds Rehab |
| | NWIN-LCEOC, Inc. |
| | North Township DAR |
| | South Bend-Transpo |
| | Terre Haute-TU |
| Iowa | Cedar Rapids-The Bus |
| | Davenport-Bettendorf |
| | Davenport-CitiBus |
| | Des Moines-Metro |
| | Dubuque, IA-KeyLine |
| | Iowa City Transit |
| | Iowa City-CAMBUS |
| | Iowa City-Coralville |
| | Sioux City-STC |
| | Waterloo-MET |
| Kansas | Topeka-TMTA |
| | Wichita-MTA |
| Kentucky | Cincinnati-TANK |
| | Lexington-Fayette-LexTran |
| | Louisville-TARC |
| | Owensboro-OTS |
| Louisiana | Alexandria-ATRANS |
| | Baton Rouge-CTC |
| | Lafayette-COLT |
| | Lake Charles |
| | Monroe-MTS |
| | New Orleans-LA Transit |
| | New Orleans-RTA |
| | New Orleans-Westside |
| | Shreveport-SparTran |
| Maine | Bangor-Eastern Transp. |
| Maine | Bangor-The Bus |
| | Lewiston-Hudson Bus |
| | Lewiston-Western Maine |
| | Portland-METRO |
| | Portland-RTP |
| Maryland | Annapolis Public Transit |
| | Baltimore-ColumBus |
| | Baltimore-Maryland-MTA |
| | Cumberland-ATA |
| | Hagerstown-Commuter |
| | Maryland-Ride-On |
| Massachusetts | Boston-MBTA |
| | Lowell-LRTA |
| | New Bedford-SERTA |
| | Worcester-WRTA |
| Michigan | Ann Arbor-AATA |
| | Battle Creek-BCT |
| | Bay City-Metro Transit |
| | Benton Harbor-Twin Cities |
| | Detroit-D-DOT |
| | Detroit-DTC |
| | Detroit-SMART |
| | Flint-MTA |
| | Grand Rapids-GRATA |
| | Jackson-JTA |
| | Kalamazoo-Metro |
| | Lansing-CATA |
| | Muskegon Area Transit |
| | Saginaw-STS |
| Minnesota | Duluth-DTA |
| | Minneapolis-St. Paul-MTC |
| | St. Cloud-Metro Bus |
| Mississippi | Gulfport-Coast |
| | Jackson-Jatran |
| Missouri | Columbia-CATS |
| | Kansas City-KCATA |
| | Springfield-CU |
| | St. Joseph Express |
| | St. Louis-Bi-State |
| Montana | Billings-MET |
| | Missoula-Mountain Line |
| Nebraska | Lincoln- StarTRAN |
| | Omaha-TA |
| Nevada | Las Vegas - Citizens |
| | Las Vegas Transit |
| | Las Vegas-EOB |
| | Reno-Citifare |
| New Jersey | NJ Transit (Contract) |
| | NJ-NJTC/Academy |
| | NJ-NJTC/Hudson Transit |
| | NJ-NJTC/Rockland |
| | NJ-NJTC/Suburban |
| | New Jersey Transit |
| | Philadelphia-PATCO |
| | Rockland Coaches, Inc. |
| New Mexico | Albuquerque-Sun Tran |
| | Las Cruces-RoadRUNNER |
| | Santa Fe-Sr. Citizens |
| New York | Albany-CDTA |
| | Broome County |

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|---|---|
| New York | Buffalo-NFTA |
| | Buffalo-Niagara Scenic |
| | Elmira-Chemung County |
| | Glens Falls-GGFT |
| | Ithaca-TOMTRAN |
| | NY-Clarkstown Mini-Trans |
| | NY-Hart |
| | NY-Long Beach |
| | NY-MTA-Long Island Bus |
| | NY-MTA-Long Island RR |
| | NY-MTA-Metro North RR |
| | NY-MTA-NYCTA |
| | NY-MTA-Staten Island |
| | NY-Rockland-Ride Sharing |
| | NY-Westchester-Liberty |
| | NYCDOT-Bus Tours |
| | NYCDOT-Command Bus |
| | NYCDOT-Green Bus |
| | NYCDOT-Jamaica Bus |
| | NYCDOT-Queens |
| | NYCDOT-Triboro |
| | Port Authority-PATH |
| | Poughkeepsie |
| | Poughkeepsie-LOOP |
| | Rochester-RTS |
| | Rome-VIP Transportation |
| | Syracuse-RTA-Cayuga |
| | Syracuse-RTA-Centro |
| | Utica-UTA |
| North Carolina | Asheville-City Coach |
| | Charlotte-CTS |
| | Durham-Chapel Hill |
| | Durham-DATA |
| | Fayetteville-Fast |
| | Gastonia Transit System |
| | Gastonia-Gaston |
| | Hickory-Piedmont Wagon |
| | High Point-Hitran |
| | Raleigh-CAT |
| | Wilmington-WTA |
| | Winston-Salem-WSTA |
| North Dakota | Fargo-MAT |
| | Grand Forks-City Bus |
| Ohio | Akron-Kent State |
| | Akron-Metro |
| | Canton-The ProLine |
| | Cincinnati-SORTA |
| | Cleveland-LAKETRAN |
| | Cleveland-RTA |
| | Columbus-COTA |
| | Dayton-RTA |
| | Lima-ACRTA |
| | Middletown-MTS |
| | Springfield-SCAT |
| | Steubenville-SVTC |
| | Toledo-TARTA |
| | Youngstown-WRTA |
| Oklahoma | Oklahoma City-COTPA |
| | Tulsa-MTA |
| Oregon | Eugene-LTD |
| | Medford-RVTD |
| | Portland-Tri-Met |
| | Salem-Cherriots |
| Pennsylvania | Allentown-Lanta |
| | Altoona-AMTRAN |
| | Erie-EMTA |
| Pennsylvania | Harrisburg-Cat |
| | Johnstown-CCTA |
| | Lancaster-RRTA |
| | Philadelphia-SEPTA |
| | Pittsburgh-GG&C Bus |
| | Pittsburgh-PAT |
| | Reading-BARTA |
| | Scranton-Colts |
| | State College-Centre Line |
| | Wilkes-Barre-(L) |
| | Williamsport-City Bus |
| | York-YCTA |
| Puerto Rico | San Juan-MBA |
| Rhode Island | Providence-RIPTA |
| South Carolina | Charleston-SCE&G |
| | Columbia-SCE&G |
| | Florence-PDRTA |
| | Greenville-GTA |
| | Sumter-Santee Wateree |
| South Dakota | Rapid City Transit System |
| | Sioux Falls-The Bus |
| Tennessee | Chattanooga-CARTA |
| | Clarksville-CTS |
| | Jackson Transit Authority |
| | Johnson City-JCT |
| | Kingsport |
| | Knoxville-K-Trans |
| | Memphis-MATA |
| | Nashville-MTA |
| Texas | Abilene-AT |
| | Amarillo-ACT |
| | Austin-Capital Metro |
| | Beaumont-BMT |
| | Brazos Transit System |
| | Brownsville-BUS |
| | Corpus Christi-The B |
| | Dallas - Handitran |
| | Dallas-DART |
| | Dallas-DART/ATE |
| | Dallas-Grand Prairie |
| | Dallas-Mesquite |
| | El Paso-Sun Metro |
| | Fort Worth-The T |
| | Galveston-Island Transit |
| | Houston-Metro |
| | Laredo-El Metro |
| | Lubbock-Citibus |
| | Port Arthur-PAT |
| | San Angelo-Antran |
| | San Antonio-VIA |
| | Waco Transit System |
| | Wichita Falls |
| Utah | Salt Lake City-UTA |
| Vermont | Burlington-CT |
| Virginia | Charlottesville Transit |
| | Charlottesville-Jaunt |
| | Danville-DTS |
| | Lynchburg-GLTC |
| | Newport News-Pentran |
| | Norfolk-TRT |
| | Petersburg Area Transit |
| | Richmond-GRTC |
| | Roanoke-Valley Metro |

| | |
|---|---|
| Washington | Bellingham-WTA |
| | Bremerton-Kitsap Transit |
| | Longview-Community Urban |
| | Olympia-IT |
| | Richland-Ben Franklin |
| | Seattle-Everett |
| | Seattle-Metro |
| | Seattle-Snohomish-Commun. |
| | Seattle-Snohomish-Senior |
| | Spokane-STA |
| | Tacoma-Pierce Transit |
| | Vancouver-C-Tran |
| | Yakima Transit |
| West Virginia | Charleston-KRT |
| | Huntington-TTA |
| | Parkersburg-Easy Rider |
| | Wheeling-OVRTA |
| Wisconsin | Appleton-Valley Transit |
| | Beloit-City of Beloit |
| | Eau Claire-ECT |
| | Green Bay-GBT |
| | Janesville-JTS |
| | Kenosha-KTC |
| | LaCrosse Municipal |
| | Madison-MMT |
| | Milwaukee-County |
| | Milwaukee-Waukesha Metro |
| | Oshkosh-OTS |
| | Racine-Belle Urban System |
| | Sheboygan-ST |
| | Wausau-WATS |
| Wyoming | Cheyenne Transit |