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Walmart Supercenters a suitable alternative to shopping at the commissary for eligible military patrons

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WALMART SUPERCENTERS A SUITABLE ALTERNATIVE TO SHOPPING AT THE COMMISSARY FOR ELIGIBLE MILITARY PATRONS

December 2014

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From 1961 to present day, Walmart has expanded its number of Supercenters to 3,336 locations throughout the continental United States, growing to be the most readily accessible grocer in the lower forty-eight states. This thesis will demonstrate that concentrated populations of active duty and retired military personnel are subject to shorter commutes when shopping at Walmart Supercenters rather than military commissaries. This thesis will further demonstrate that the average military base is closer to a Walmart than a military commissary and that the average number of Walmart Supercenters exceeds the number of commissaries within specific distances from military bases. With rising fuel costs and the number of Walmart Supercenters available nationwide, eligible commissary patrons may be less willing to drive long distances in order to save money on groceries. The closer and more convenient option may best serve the needs of the military customer. If better alternatives exist outside of the commissary, the government can reexamine the practicality of dedicating annual appropriations to the Defense Commissary Agency.

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ABSTRACT

From 1961 to present day, Walmart has expanded its number of Supercenters to 3,336 locations throughout the continental United States, growing to be the most readily accessible grocer in the lower forty-eight states. This thesis will demonstrate that concentrated populations of active duty and retired military personnel are subject to shorter commutes when shopping at Walmart Supercenters rather than military commissaries. This thesis will further demonstrate that the average military base is closer to a Walmart than a military commissary and that the average number of Walmart Supercenters exceeds the number of commissaries within specific distances from military bases. With rising fuel costs and the number of Walmart Supercenters available nationwide, eligible commissary patrons may be less willing to drive long distances in order to save money on groceries. The closer and more convenient option may best serve the needs of the military customer. If better alternatives exist outside of the commissary, the government can reexamine the practicality of dedicating annual appropriations to the Defense Commissary Agency.

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LIST OF ACRONYMS AND ABBREVIATIONS

ADP	Administrative Data Processing
ArcGIS	Arc Geographic Information System
AOC	All Outlets Combined database
CBO	Congressional Budget Office
CONUS	Continental United States
CPI	Consumer Price Index
DOD	Department of Defense
DeCA	Defense Commissary Agency
FMR	Financial Management Regulation
FY	Fiscal Year
GAO	Government Accounting Office
GOCO	Government owned, contractor operated
M&RA	Assistant Secretary of Defense, Manpower and Reserve Affairs
UPC	Universal Product Code

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-LCDR Joel Frey

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-LCDR Al Francisco

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I. INTRODUCTION

A. OVERVIEW

This thesis analyzes the accessibility of commissaries to eligible patrons and examines whether Walmart Supercenters would be an acceptable low-cost grocery store alternative. In the present fiscal environment, Congress is looking for ways to reduce spending and the Department of Defense (DOD) budget. Due to receiving over one billion dollars in annual appropriations, the commissary system has continually been considered in potential cost cutting initiatives (Bushatz, 2014).

One of the goals of the current administration is to reduce the deficit and in turn reduce the national debt (Dinan, 2014). The country must eliminate the deficit and begin to run a surplus, in order to reduce the federal debt. One way to achieve this is to identify programs that require appropriated funding and verify the necessity of expenditures. While the projected deficit for FY 2015 is down to $564 billion, factoring in the federal debt has numerous people concerned and different options to reduce the debt and deficit are still being contemplated (Chantrill, 2014).

Since the creation of the Defense Commissary Agency (DeCA) in 1990, the cost of operations has been subsidized with appropriated funds (Bushatz, 2014). With appropriated funding levels reaching $1.4 billion in FY 2013, the subsidy has again come under attack (Defense Commissary Agency, 2013). Earlier this year, while planning the FY 2014 and 2015 budgets, the Pentagon again took a closer look at the commissary appropriations and proposed to cut them by 71%, from the FY 2013 level down to $400 million over a three-year period (Lunney, 2014). This reduction would most likely result in a number of commissary closures, higher prices and additional surcharges at the commissaries that stay in business.

Members of the House of Representatives and Senate responded in protest at the prospect of reducing appropriations (Bartel, 2014). The House Armed Services Committee reacted by tabling the cuts for the time being, but it appears to be only a matter of time until the subject is revisited (Jowers, 2014). While most military members

are likely not in favor of giving up the commissary benefit, Walmart's widespread availability and comparable prices make it a viable alternative.

B. POSSIBLE ALTERNATIVES

The Commissary system was originally created in order to provide a cost savings to eligible patrons. Although DeCA did not establish commissary locations in order to serve remote locations, the remoteness of military bases was a consideration when determining when and where to open new stores (Skirbunt, 2008). Because the grocery market has evolved since the initial commissaries were opened and the military has fewer remote locations, the primary reason to retain commissaries is therefore due to the cost savings for eligible patrons.

With numerous other options available including local supermarkets, specialty stores; big box stores such as Sam's Club and Costco and the creation of low cost options such as Walmart Supercenters, shoppers have more alternatives than ever. Should the cost savings be reduced or eliminated, patrons may frequent alternative stores, driving decreases in sales and potential closures as viable alternatives for service members. Policymakers should closely examine how suitable these alternatives are for CONUS-based service members before making any decisions.

This thesis will answer the following research questions:

- Why was the Commissary system created and what previous studies have been completed to determine if it should remain?
- Do commissary beneficiaries have access to a suitable alternative within a certain distance?
- What is the price difference if a patron purchases the exact or similar items at a commissary and a Walmart Supercenter?
- Can the price difference be further reduced or eliminated by purchasing generic alternatives?

C. AREA OF RESEARCH

Other studies, commissions and theses have focused on alternatives which have the potential to cost the United States Government more money in the long run than the

commissary subsidy. In order to examine the viability of a private alternative this thesis will examine all locations of continental United States (CONUS)-based commissaries, Walmart Supercenters, military bases and metropolitan areas to determine the relative convenience of these alternatives to current patrons. In addition, this thesis will use a local market basket study to quantify the actual cost savings in a specific geographic location.

This thesis demonstrates that concentrated populations of active duty and retired military personnel are subject to shorter commutes when shopping at Walmart Supercenters than military commissaries and that the average military base is closer to a Walmart than a military commissary. The average number of Walmart Supercenters exceeds the number of commissaries within specific distances from military bases. Based on the data we present, the government should reexamine the practicality of reallocating annual appropriations currently allocated to DeCA.

The thesis specifically analyzes CONUS-based locations because of limited data. Commissaries serve an additional purpose OCONUS because the availability of goods service members are accustomed to in the United States is limited overseas. Additional research would be necessary to identify suitable alternatives overseas.

D. APPROACH

Our approach to this thesis was to first determine a current topic that was being debated in the news. While Congress continues to scrutinize ways to implement budget constraints and potential cuts to military benefits, the commissary once again becomes a highly debated topic. The backlash that the budget proposal had received over the potential elimination of commissary benefits became very intriguing, leading us to select the commissary system as our thesis topic.

We then gathered background information and data on the Global Positioning System (GPS) coordinates of CONUS-based commissaries, Walmart Supercenters, military bases and metropolitan areas. Utilizing the ArcGIS software program, we were able to determine the availability of Walmart Supercenters compared to commissaries. Finally, a local case study market basket was utilized to determine the actual savings

realized by Fort Ord commissary shoppers versus the Marina, California, Walmart Supercenter in the geographic location serving military members stationed at the Naval Postgraduate School and Defense Language Institute in Monterey, California. This case study determined the actual cost savings to military members based on a 122-item market basket containing exact items (apples to apples) and a market basket containing Walmart's Great Value generic brand versus items at the commissary.

E. ORGANIZATION

This thesis is organized into six chapters. Chapter II provides a history of the commissary system and a brief history of Walmart Supercenters and discusses the opposition the commissary system has felt from different committees and commissions, including the Hook Commission, Strauss Commission, Harden Subcommittee, Hoover Commission, Bowers Commission, Grace Commission, and the Jones Commission. It then discusses the alternatives presented by previous theses and how they have failed to eliminate the need for appropriations. Finally, it discusses recent market basket studies conducted by DeCA.

Chapter III identifies our data sources and the programs used to analyze the data. Additionally, it discusses our rationale on why certain distances were chosen and our study's limitations.

Chapter IV analyzes location data for all CONUS-based commissaries, Walmart Supercenters, military bases and metropolitan areas and answers the question, do commissary beneficiaries have access to a suitable alternative within a certain distance?

Chapter V presents the local market basket price study. It determines the actual savings realized at the local commissary versus the Walmart Supercenter and answers the questions; what is the price difference if a patron purchases the exact or similar items at a commissary and a Walmart Supercenter and can the price difference be further reduced or eliminated by purchasing generic alternatives?

Chapter VI provides our overall summary and conclusion. Finally, it discusses our recommendations on how to further the research.

II. BACKGROUND

A. OVERVIEW

This chapter provides background information on the commissary system and a brief history of Walmart, which we consider as a substitute in the study. The intention is to shed light on how the commissary has evolved and illustrate the scrutiny it has received from the federal government over the years. We discuss commissions and studies aimed at eliminating the commissary system and we examine alternative approaches to the current system proposed in prior theses. We also examine commissary market basket studies that report to estimate savings service members receive at commissaries.

B. COMMISSARY HISTORY

Although very different from the concept we think of today, Congress extended the ration system and began the first commissaries on June 16, 1775. This ration system included a Commissary General of stores and provisions based on the British model that purchased subsistence for the Army (Skirbunt, 2008). Instead of authorizing members of the Army to procure goods at a local store as we do today, the Army gave each soldier a daily ration, which consisted of the following items (Skirbunt, 2008):

- 1 pint of milk
- 1 quart of spruce beer
- 1 pound of fresh beef, salt fish, or ¾ pound of pork
- 1 ounce of rice
- 6 ½ ounces of dried peas
- Soap and candles

The Army continued to issue this ration of food for the next three years, until officers were offered wages of thirty-three cents per ration in place of the daily ration allowance (Skirbunt, 2008).

The next forty-seven years saw minor changes affecting who was authorized rations, how many rations were allowed and the contents of a daily ration (Skirbunt, 2008). The next major change came in 1825, when due to the expanding war, Army officers were granted the privilege to make purchases for their personal use, paying at-cost prices from commissary department storehouses at specified posts (History of U.S. Military Commissaries, 2014). The benefit was granted initially to officers based on the remoteness of the post and availability of goods, prior to being expanded sixteen years later to allow officers to purchase items for their immediate family members. In 1867, the benefit was expanded to the enlisted ranks and the commissary benefits and system we know today was born (History of U.S. Military Commissaries, 2014).

The Army established the commissary system during the Civil War out of necessity. The Army employed substandard contractors to procure daily rations and the soldiers needed higher quality subsistence than what contractors were providing (Skirbunt, 2008). Although the stores did not officially open to enlisted men until 1867, they were basically in place throughout the Civil War. The men, lacking the nourishment they needed or the items they desired, would turn to the settlers to procure substitute items (Skirbunt, 2008). While this practice was allowed and Congress published a list of authorized items, many settlers took advantage of the men by charging a premium (Skirbunt, 2008). Policymakers decided to give the enlisted men the same benefits the officers had enjoyed for the previous four decades, based on the premise of maintaining good prices, providing convenience to the customer and gradually forcing the settlers out of business (Skirbunt, 2008).

Opening commissary stores was only a temporary solution to the challenge of feeding troops. Stores offered fresh produce and other perishable items, but due to poor transportation and lack of refrigeration, food was prone to spoilage and men again turned to the settlers to supply subsistence (Skirbunt, 2008). A ten-percent surcharge was implemented in 1879 to help offset the cost of transportation and spoilage; however, the surcharge was short lived due to its unpopularity and was quickly repealed five years later (Skirbunt, 2008). Another key change was implemented in 1874, with the beginning

of the revolving fund, when profits were allowed to be reinvested back in the stores rather than being taken in by the U.S. Treasury (Skirbunt, 2008).

Over the next fifty years, the commissary system expanded further. The Navy, Marines and Air Force adopted the commissary system. More stores opened near different posts, and certain overseas locations established their first commissaries (Skirbunt, 2008). The period also expanded authorized users to include certain federal employees and retired military personnel (Skirbunt, 2008). The expansion required an increase in appropriated funding, which garnered criticism from the private sector over loss of potential customers. The commissary became a hotly debated topic.

The heated debate led to:

- Numerous studies verifying the amount of savings commissaries brought to the military customer.
- Subcommittees with the goal of making commissaries self-sustaining.
- The re-implementation of the surcharge to help offset costs.
- A number of commissions on how to improve the commissary system, including the Hook Commission, Strauss Commission, Harden Subcommittee, Hoover Commission, 1964 Government Accounting Office (GAO) report, Bowers Commission, Grace Commission and Jones Commission (Skirbunt, 2008).

The studies, surcharge and commissions will all be discussed in greater detail in the following paragraphs.

Over the past sixty years, spouses have become vocal in the commissary debate as the services have seen an increase in the number service members with families. This increase has further fueled the fire against eliminating the commissary benefit, as special interest groups relied more heavily on commissaries to stretch their buying power (Skirbunt, 2008). A number of studies have been completed and the common theme among them is that spouses value the benefit and are adamantly against its going away (Skirbunt, 2008).

In the early 1970s, commissaries became structured and began to increase surcharges. The DOD mandated basic ground rules and more centralization for the

services while Congress reaffirmed the surcharge at 3% in 1974, raised it to 4% in 1976 and again to 5% in 1983 (Skirbunt, 2008).

As the Cold War came to an end, an average of ten commissaries were closed per year due to the reduction of military personnel, resulting in a decrease in sales. The talk of consolidation became a popular debate and brought three major concerns from each of the services and the personnel who were employed by the commissaries including (Skirbunt, 2008): 1) The commissary budget would become one large target and be more prone to cuts, 2) the DOD would not fight for the benefit as the services had, 3) and the belief that each service believed their way of providing the benefit was the right way.

The Jones Commission was formed to look at alternatives and one of their recommendations was to consolidate the four services' commissary organizations into one organization that would have to answer to a board of directors made up of DOD and service officials (Office of the Assistant Secretary of Defense, Force Management & Personnel, 1989). On May 15, 1990, the DOD accepted the commission's advice and Deputy Secretary of Defense, Donald Atwood, announced that DeCA would be formed (Skirbunt, 2008). While the letter was signed and DeCA was provisionally established on October 1, 1990, the following year was anything but smooth because the new organization needed to appoint officers, issue directives, and form committees. DeCA was activated on October 1, 1991, as a single organization in charge of the military commissary system (Skirbunt, 2008).

Since its inception, DeCA has become one of the country's most powerful supermarket chains despite facing a number of changes. As a result of military realignments, base realignment, closures and ongoing budget cuts, DeCA closed nearly two hundred commissaries shrank its workforce from over 22,000 employees to nearly 8,000 employees (Skirbunt, 2008). DeCA faced further opposition when the Congressional Budget Office (CBO) claimed that commissaries had exceeded their original purpose of providing service to remote locations, however, DeCA presented evidence that shed light on their original purpose, finally putting an end to this incorrect notion (Skirbunt, 2008).

Because DeCA was supported by appropriated funds, the organization needed to be run more like a business. During the turn of the 21st century, DeCA assumed a more business-like approach, focusing on cutting operational costs and delivering savings to the customer. (Skirbunt, 2008). The approach seemed to have worked as annual sales topped $5 billion and a USDA study determined that an average family of four was capable of saving 30% annually, which equates to $2,400 (Skirbunt, 2008). While the commissary system has continued to flourish, it still remains under attack. Decision makers again discussed privatization until the events of September 11, 2001 led their scrutiny to be tabled for the time being, citing that the commissary was still a benefit that impacted morale (Skirbunt, 2008). A 2005 CBO report claimed $2.4 billion could be saved over the next four years by closing all commissaries and giving active duty troops a five hundred dollar a year stipend (Skirbunt, 2008).

While the commissary was originally started to provide service to Army officers, eligibility has been extended over the years to numerous groups and individuals. The following individuals and groups are currently granted commissary privileges (DODI 1330.17, 2014):

- Members of the Uniformed Services
- Members of the Reserve components
- Cadets and midshipmen of the Armed Services Academies
- Noncommissioned ships officers and members of the crews of vessels of the National Oceanic and Atmospheric Administration (NOAA) and its predecessors.
- Retired Personnel
- Medal of Honor Recipients
- 100 Percent Disabled Veterans
- Authorized Family Members
- DOD Civilian Employees and authorized family members Stationed outside the United States and outside the U.S. Territories and Possessions
- Official DOD and Armed Forces Organizations and Activities

- Involuntarily Separated Uniformed Personnel

Additionally, the following groups and individuals may be granted access to make purchases from the commissary, under certain circumstances, except when prohibited by treaty or other international agreements in foreign countries (DODI 1330.17, 2014):

- Hospitalized Veterans
- DOD Civilian Employees Assigned to the U.S. Territories and Possessions
- Military Personnel of Foreign Nations
- Non-DOD U.S. Government Departments or Agencies in Overseas Areas
- Civilian Employees of Non-DOD U.S. Government Departments or Agencies outside the United States and outside the U.S. Territories and Possessions
- American National Red Cross (ARC) Personnel
- United Service Organizations (USO)
- United Seamen's Service (USS)
- Armed Services Young Men's Christian Association (ASYMCA)
- Personal Agent or Personal Representative
- DeCA Employee Commissary Privileges
- Federally Declared Disasters

C. BRIEF HISTORY OF WALMART

Walmart is a nationally available alternative and a dominant competitor in the grocery industry. Walmart Supercenter Stores provide numerous locations and easy accessibility throughout the lower 48 states, and its store brand "Great Value" products are frequently suitable substitutes to more expensive, name brand products.

Sam Walton founded Walmart on the premise that it would have the lowest prices anytime. The first store opened in Rogers, Arkansas, on July 2, 1962 (History Timeline, 2014). Over the next decade, the company experienced tremendous growth. Walmart officially incorporated in 1960, went public in 1970, opened its first distribution center in

1971, and was listed on the New York Stock Exchange by 1972 with $78 million in sales and fifty-one stores (History Timeline, 2014). Walmart continued to see unparalleled growth in the 1980s, as the company opened two additional types of stores that are almost everywhere today, Sam's Clubs and Walmart Supercenters. Walmart Corporation reached over $1 billion in sales faster than any other company (History Timeline, 2014).

While Walmart's mission was to provide customers with everyday low prices and outstanding customer service, the decision to expand to Walmart Supercenters was a key strategic move. Since the first Walmart Supercenter opened in 1988, in Washington, Missouri, Walmart Corporation has expanded to become the largest grocer in the nation and has continued to open Supercenters more than any other, with 3,336 of their 4,901 stores in the United States today being Walmart Supercenters (Walmart U.S., 2014). The goal behind the Supercenter brand was to offer the customer a one-stop shop for all of customers' home and basic needs.

Walmart made a key strategic move in 1993, creating the Great Value brand. Walmart founded the brand in order to provide a quality and low-priced generic brand that is an alternative to name brands (Goldman, 2012). The Great Value brand, which has over one hundred categories and dozens of suppliers became the largest brand in the U.S. in terms of both volume and sales (Goldman, 2012). We will look at this more closely in Chapter V, comparing commissary savings to potential savings by substituting the Great Value brand for certain name brand products.

Today, Walmart has risen to become a world power with stores popping up all over the place. It has eclipsed the $400 billion mark in annual sales, recently celebrated fifty years in business and continue to expand internationally (History Timeline, 2014).

D. REVIEW OF COMMISSIONS, REPORTS AND THESES

The primary role of commissions, Government reports and student theses is to review and make recommendations to Commissary Executives and provide DOD Leadership with facts from findings on current policies and programs associated with the commissaries.

1. Hook Commission, 1947

The first commission, chaired by Ohio Industrialist, Charles R. Hook, although not specifically tasked to look at commissary benefits, was appointed by President Truman and the DOD in 1947 to study military compensation (Skirbunt, 2008). The commission took a comprehensive look at all military pay and compensation and looked at commissaries positively (Skirbunt, 2008). In their published report, Career Compensation for the Uniformed Services, the commission determined that when pay ranks were set, commissary benefits were taken into account and, therefore, pay would need to be increased to offset the loss of this benefit if the commissaries were taken away (Skirbunt, 2008).

2. Strauss Commission, 1952

A second commission, chaired by Lewis R. Strauss, was convened by Secretary of Defense Robert A. Lovett in 1952 to analyze special and incentive hazardous duty pays and make recommendations about the specific pays (Skirbunt, 2008). The Strauss Commission agreed one hundred percent with the Hook Commission's findings and recommended that Congress should think twice before any major changes are made to military pay and benefits (Skirbunt, 2008). However, due to a change in Presidential parties, both the Hook and Strauss Commissions conclusions were found to be insignificant and the benefits would continue to be a fiercely debated topic for the foreseeable future (Skirbunt, 2008).

3. Harden Subcommittee, 1953

As the debate continued, the Harden Subcommittee, led by Republican Cecil M. Harden of Indiana, was formed in 1953 and held hearings addressing the competition between private sector industry and government business like activities (Skirbunt, 2008). The National Supermarket Institute argued for closure of all CONUS-based commissaries, while the Defense Department argued that closing commissaries would be equivalent to a pay cut and would negatively affect morale (Skirbunt, 2008). While Congress was considering the arguments and seriously considering acting in favor of closing the commissaries, opposition from pro-military media and veterans' organizations

was again able to save the commissaries as Congress decided to defer the decision to the future (Skirbunt, 2008).

4. Hoover Commission, 1955

The decision to forgo the argument to close commissaries was short lived. The Hoover Commission, led by President Herbert Hoover, was formed to look at Organization of the Executive Branch of the government and the first report was produced in 1949 (Skirbunt, 2008). The Report on Business Enterprises again fueled the debate as it recommended the following actions be taken in regard to commissaries (Skirbunt, 2008):

- Commissary operations should be contracted out.
- Prices should be adjusted to cover all costs.
- Commissaries should only be located in areas where "adequate or reasonably convenient services are not available."
- However, as had been done in the past, commissaries were once again spared as the DOD rejected all of the commission's recommendations in January of 1956 (Skirbunt, 2008).

5. Government Accounting Office Report, 1964

The next major report questioning the need for commissaries was a 1964 report published by the GAO, titled Failure to Curtail Government Expense of Military Commissary Stores in Continental United States Where Adequate Commercial Facilities Are Available (Skirbunt, 2008). This report became highly controversial as it was based on the incorrect premise that commissaries were intended only for remote posts and failed to discuss the savings delivered to customers (Skirbunt, 2008). Additionally, the GAO failed to present the findings to the DOD, thus disallowing them the ability to comment or explain. However, as it was common in previous studies and commissions, it recognized the impact that eliminating commissaries would potentially have on military morale and end strength (Skirbunt, 2008).

6. Bowers Commission, 1975

The third commission to look at alternative ways of improving commissary operations was the Bowers Commission. Formed in 1975, this study group, under the Assistant Secretary of Defense, Manpower and Reserve Affairs (M&RA), was tasked with determining if any changes should be made to the commissary system in order to reduce costs, improve efficiency, and provide better service (Bowers, 1975). The study group was formed in response to a proposal from the Secretary of Defense, recommending commissaries no longer receive direct appropriated fund support (Bowers, 1975). As Bowers (1975) states, the group considered the following five alternatives:

> retention of the current system on a reimbursable basis, creation of a service-wide commissary management organization to operate separate-service commissary stores, establishment of common management organizations for exchange and commissary operations for the respective military service, creation of one agency to operate all commissary stores within DOD, and operation of commissary stores under a GOCO (Government owned, contractor-operated) arrangement. (p. 1-2)

The study group, which was made up of representatives from different agencies and each of the four services, consisted of eighteen members and was chaired by Army Brigadier General Emmett W. Bowers, the Commander of the U.S. Army Troop Support Agency (Bowers, 1975). The study determined that the creation of one agency to operate all commissary stores within DOD would result in the lowest costs with comparable savings; however, the authors were unable to recommend this alternative due to a three- to five-year lead time required for implementation (Bowers, 1975). While the commission realized this resulted in higher costs, it recommended creation of a service-wide commissary management organization to operate separate-service commissary stores, for a number of reasons including lowest impact on personnel and patrons, the imposed time frame, and the fact that it bought each service additional time to determine the customer's perspective to the Secretary of Defense's recommendation of eliminating appropriated fund support (Bowers, 1975). Additionally, the commission's report listed the following recommendations (Bowers, 1975):

- Development of accounting and administrative data processing (ADP) systems, while focusing standardization to the extent feasible by utilizing on a joint-Service committee.

- Enable legislation to:

    - Eliminate the Army and Air Force requirement to sell items at invoice.

    - Allow funds from adjustments and surcharges to be invested.

    - Eliminate the portion of the Defense Appropriations Act which institutes prices, availability, and distance.

- Provide flexibility in use of part-time employees.

- Request the Civil Service Commission to deliver recruiting support for part-time employees.

- Develop programs to inform customers of operating and savings information.

- Separate the troop issue and resale utilities.

- Develop an effective training program.

- Reevaluate the feasibility of consolidating into a joint-service system based on an evaluation of operational costs and customer losses after an appropriate period of time.

7. Grace Commission, 1987

Although not specifically tasked with analyzing commissary operations, a second commission that had recommendations on commissary operations was the President's Private Sector Survey on Cost Control, also known as the Grace Commission. This commission, made up of hundreds of task members from private industry and chaired by Mr. J. Peter Grace, the Chairman and Chief Executive Officer of W.R. Grace & Company, was formed in 1983 by President Ronald Reagan (President's Private Sector Survey on Cost Control, 1984). As stated in the President's Private Sector Survey on Cost Control Report (1984), President Reagan tasked "to identify opportunities for increased efficiency and reduced costs achievable by executive action or legislation" (p. i-f).

Among the 2,478 recommendations of the Grace Commission with a potential savings of $424 billion in three years and $1.9 trillion by the year 2000, was the recommendation that commissaries should either be closed or privatized (President's Private Sector Survey on Cost Control, 1984). While the savings were not as substantial as above, the commission estimated that by closing the commissaries in the CONUS, $973 million could be saved over three years while privatizing would lead to an estimated savings of $2.447 billion (President's Private Sector Survey on Cost Control, 1984).

While the commission estimated the potential for savings, more questions arose as to what would be the actual savings. One of the areas cited were what the effect would be on retention and whether closing or privatizing commissaries may actually lead to lower retention and cause more costs in the form of bonuses, pay raises or additional benefits (The Recommendations of the President's Private Sector Survey on Cost Control, 1985). Due to the uncertainties, the recommendations were never adopted and the issue of how to reduce costs associated with commissary operations would be revisited a few years later by the Jones Commission.

8. Jones Commission, 1989

On March 2, 1989, a request was initiated by the U.S. House of Representatives Chairman of Morale, Welfare and Recreation (MWR) Subcommittee on Readiness, the Honorable Marvin Leath to Lieutenant General Donald W. Jones, Deputy Assistant Secretary of Defense (Military Manpower and Personnel Policy), requesting that military commissaries be thoroughly and comprehensively analyzed (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989). As a result of the request, the DOD Study of Military Commissaries, also known as the Jones Commission, was created by the Deputy Assistant Secretary of Defense (Resource Management and Support) David J. Berteau, on March 31, 1989 (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989). As stated in (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989), the purpose of the study "was to conduct an unrestrained baseline reassessment to be used to reduce the systems' dependence on appropriations and in the development of policies that will move the

commissary system forward in an orderly and consistent manner into the next century" (p. v).

The study was set up in two main groups, consisting of twenty five members including the steering group, whose main function was to provide executive direction. The study group conducted the main study with input from commissary field activities, various grocery industry corporations, industry trade groups, and commissary support activities (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989). The Jones Commission conducted the study between April and September 1989, and determined that all members of the military should be entitled to the same level of commissary service regardless of their branch of service; however, due to each service running its own organization, this was not reality (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989). The Jones Commission further found that many of the tasks being performed by the services commissaries were duplicated by other agencies, labor intensive and obsolete in the grocery industry (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989). Due to these facts, the commission came up with the following two alternatives and estimated annual savings: (Office of the Assistant Secretary of Defense [Force Management & Personnel], 1989).

- Consolidate the four services commissary organizations into one organization ($93.3 million) who would have to answer to a board of directors made up of DOD and service officials.

- Remain as service organizations but focus on central distribution ($44 million) by establishing joint distribution centers operated in different regions by a designated service.

9. Jeffery Dearing 1984 Thesis

While researching the feasibility of conducting our thesis on alternatives to the current commissary system, we came across three previous theses which students have completed in satisfaction of their master's degrees. The first one, completed in September 1984 by Captain Jeffery Dearing, was titled "An Evaluation of the Perceived and Actual

Cost Comparisons of Commissaries: Fort Ord Case." Despite being completed over thirty years ago, it relates to our thesis since a price comparison was used to determine the actual savings realized by Fort Ord Commissary patrons.

This thesis starts with a background of how the commissary system began and then gets into a detailed description of the Fort Ord Commissary operations. It then details the approach to the thesis. The first step undertaken was to randomly distribute a questionnaire to 248 military members, ranging from E-1 to O-5, stationed at Fort Ord, Naval Postgraduate School and Point Sur Naval Facility. The goal was to determine shopping habits and the perception of the Fort Ord Commissary and specifically obtain data related to disposable income, military status, biographical data, and distance from the commissary, perceived savings, time and loyalty (Dearing, 1984).

The second part of the thesis is very similar to what we have completed in the Chapter V case study, as shelf prices were compared at the Fort Ord Commissary, and three local supermarkets (Alpha-Beta, Lucky and Safeway), to determine the actual savings provided by the commissary (Dearing, 1984). From there, Captain Dearing created a cost model which took into account direct costs, indirect costs and random costs, utilizing commissary surcharges, bagger tips, purchase costs, transportation costs, total time per shopping trip, frequency of monthly trips, and hourly cost of shopping and was applied to the commissary and the average of the three supermarkets. (Dearing, 1984). Next a savings model was created which determined the direct cost savings of shopping at the commissary by subtracting the sum of the average cost of shopping at the supermarkets and the sum of the taxable and non-taxable costs from the direct cost of shopping at the commissary, then dividing the product by the average cost of shopping at the supermarkets, and finally multiplying the result by 100 (Dearing, 1984).

The price data was gathered on 157 items from the following categories Dearing, 1984):

- Produce
- Meat
- Dairy

- Frozen food
- Grocery products
- Household goods
- Health and beauty

The prices were gathered utilizing same name brand when available, same quality and unit quantity parameter when exact items were unavailable (Dearing, 1984). Utilizing the survey data, cost and savings models and price data, it was determined that the average savings provided by shopping at the commissary was $44.96 and was further broken down to 22.75%, when taking into account all direct costs and 26.32% when utilizing shelf price only (Dearing, 1984).

Although this thesis determined that the commissary benefit provides an actual savings, there are some areas that should be taken into account. First, the survey was randomly distributed and then it was concluded that the data was characteristic of the overall local military population. Second, while the use of indirect costs is useful, it can influence the data based on what assumptions are used. Therefore, the most useful part of the study in relation to our thesis is the standard price comparison utilizing only the price data.

10. Martin Alcott 1994 Thesis

The second thesis, completed in December 1994 by Lieutenant Commander Martin Alcott, was titled “An Evaluation of Direct Cash Compensation in Lieu of Military Commissary Privileges.” Although it was completed nearly twenty years ago, it still remains relevant today, as many of the issues discussed in the thesis are still a subject of debate today.

The first research question discussed focuses on the history of the commissary and its intended purpose. This is primarily background information that brings the reader up to speed on how the commissary was originally started and what changes it has undergone since its inception. From there, the focus of the thesis shifts to the remaining three research questions which were “Do commissary beneficiaries have a legal right to

these benefits, what is the value of the commissary benefit, and can this benefit be provided more efficiently through direct cash compensation or other means?" (Alcott, 1994).

While looking at whether or not commissary beneficiaries have a legal right to these benefits, LCDR Alcott took the approach of determining whether beneficiaries were actually receiving an entitlement, or if instead they were receiving a fringe benefit or privilege. In researching this, he determined that if the benefit was indeed an entitlement, than those beneficiaries who were unable to receive the benefit should be entitled to an equivalent cash payment, and since this was not happening, it could not be considered an entitlement (Alcott, 1994). From there, he took it a step further and determined it could not be a fringe benefit since it was not guaranteed to all employees (Alcott, 1994). Eliminating the possibility of either an entitlement or a fringe benefit, led him to conclude commissary use was instead a privilege.

After determining whether or not beneficiaries have a legal right to the commissary benefit, the thesis shifts focus and attempts to quantify the value of the commissary benefit. This is first done by looking at it from an employer's point of view and determined to cost an average monthly value of $66.67 per member, based on FY 1995 appropriated funding and authorized active duty force end strength (Alcott, 1994). From there, a more complicated approach was used to look at the value from the employee's point of view based on actual usage. In order to do this, multiple assumptions were taken into account, such as when personnel promote, years of service, family size and spending patterns. The value was calculated by looking at average savings by pay grade and multiplying this number by the average monthly gross incomes to determine actual savings (Alcott, 1994). This method led to the discovery that savings were not equal across the board and therefore if direct cash payments were utilized rather than the commissary benefit, E-1 to E-7, W-1, and O-1 to O-2 would be compensated above their monthly savings while the remaining ranks would not (Alcott, 1994).

Finally, the manner to implementing direct cash payments were looked at to determine if this indeed was a feasible option. The option looked at adding the cash payment directly to BAS. Because some enlisted personnel receive subsisted in-kind

meals, more calculations were needed to determine the actual cost to the government when taking this approach. Subsisted-in-kind is meals furnished by or on behalf of the Government at no charge when BAS is not payable to enlisted personnel (DOD FMR, Vol 7A, Ch 25, 2014). The savings per pay grade were used along with projected FY95 manning levels to determine the monthly costs per pay grade. The enlisted cost was reduced by the percentage of personnel receiving subsistence in-kind which was calculated by determining the average marital rate and the percentage of single personnel receiving BAS. The findings led to an estimated $486 million cost compared to appropriated funds of $576 million, resulting in a savings of approximately $90 million and should therefore be implemented (Alcott, 1994).

Although this thesis determines that the commissary benefit is a privilege and places a value on the benefit, determining that it would be feasible and cost effective to implement direct cash compensation in lieu of commissary benefits, there are some areas that should be taken into account. First, it looks primarily at the active duty force and does not take into account if anything would be offered to the many other eligible commissary patrons. Second, while it briefly discusses the option of privatization, it does not get into what would be done with the existing commissaries. Finally, informal interviews were used with four individuals, consisting of a retired Navy Rear Admiral, an Army Captain, A Navy Lieutenant, and a Navy Lieutenant Commander's spouse to determine the value beneficiaries place on their commissary benefits and it was concluded that this sample was representative of the population. The problems with this were the small sample size and lack of diversity.

11. Christopher R. deWilde 1998 Thesis

The final thesis completed in 1998 by Lieutenant Christopher R. deWilde was titled Evaluation of Directly Subsidizing Commercial Supermarket Discounts as an Alternative to Providing CONUS Commissaries. The thesis was completed a year after the Congressional Budget Office study and highlights many issues still under scrutiny today. At the time, the CBO focused on the following four alternatives (deWilde, 1998):

- Follow DOD's current plan.

- Create a DOD resale authority.
- Rely on private contractors.
- Revise incentives for DOD's retail activities.

The focus of the thesis was to evaluate the feasibility providing discounts to eligible service-members by contracting with commercial supermarkets to provide discounts. In order to accomplish this, LT deWilde looked first at the history of the commissary system and then shifted focus to the commercial supermarket industry and the differences in how it operates. From there, the focus shifts to a pilot program conducted near Naval Station Pascagoula, Mississippi, in which two grocery stores in Pascagoula were willing to offer five and six percent discounts to service members, while receiving no subsidies, since the closest commissary was 30 miles away.

The thesis then discussed the cost to the government to provide subsidies to commercial supermarkets willing to enter into this program. For this section, LT deWilde discusses a selective subsidization approach in which the government would have to provide some subsidy to incentivize supermarkets to offer a substantial discount, that only certain products would be offered the discount based on items on the commissary authorized list, and that some annual cap on how much a service member was authorized to save (deWilde, 1998). A cost benefit analysis was conducted and it was determined that the CONUS commissaries accounted for approximately 66% of the total cost of the $1 billion annual appropriation or $660 million (deWilde, 1998). Based on the CBO study, it was estimated that thirty four percent of commissary sales were traceable to active duty personnel, which when taken into account with the $660 million CONUS costs, equates to $225 million (deWilde, 1998). Again using the CBO study as a reference, it was determined that approximately 1.15 million of the 1.4 million active duty service members were stationed in CONUS, $4.3 billion dollars in sales was traceable to CONUS which when taken into account with the thirty four percent estimate above, equates to $1.46 billion, therefore resulting in annual expenditures of $1,270 per service member or $106 per month (deWilde, 1998). Next, the $1,270 was adjusted to reflect commissary savings (20%), amount of purchases already made at commercial

supermarkets (40%) and an adjusted monthly total of $220 was determined (deWilde, 1998). Finally, the $220 was used along with estimating the government subsidize ten or twenty percent and it was determined it will cost $304 million or $608.5 million depending on which option is adopted (deWilde, 1998). The research was taken one step further and it was determined it would only be cost effective for the government to subsidize approximately five percent to all eligible patrons while nine percent would retain the same benefits for active duty personnel based on USDA and Bureau of Labor Statistics (deWilde, 1998).

Although the thesis provides good detail and different alternatives, the following must be weighed when analyzing the options. First, the pilot program discussed in Pascagoula is presented as a viable option, but no data was available at the time of the study and it fails to answer the question of how many commercial supermarkets would be willing to offer the alternative. Second most of the data and research was aimed at how to replace the commissary benefit only for active duty personnel while failing to account for the other 66% of eligible personnel. In conclusion, the recommendation was to look further at reducing or eliminating CONUS commissaries to allow the DOD to concentrate on its primary mission and reduce the budget.

E. MARKET BASKET STUDIES

Since the consolidation of the services commissaries systems under one organization run by DeCA, a number of market basket studies have been conducted with similar outcomes. DeCA designed a survey to compare prices between commissaries and supermarkets, utilizing universal product codes for most items with the exception of fruits, vegetables and meats (Brink, 2001). The survey was conducted using random sampling techniques (Brink, 2001). The results estimate a steady increase in commissary comparative savings from 23.2% in 1991, to 27% in 1999 and 29.2% in 2001 (Brink, 2001).

The most recent study completed by DeCA in 2013 has been expanded to include all outlets and determined the commissary would save average service members 30.5% (Robinson, 2014). DeCA used the following methodology to arrive at the 30.5% savings

(Information Paper on 2013 Price Comparison Survey, 2013): A comprehensive database (Nielsen) of actual prices for scannable items was compared. Exact items were compared by using Universal Product Codes (UPC). Twenty-six weeks of price data were used, with an ending period of June 22, 2013. All Outlets Combined Database (AOC) was used which encompasses supermarkets, drug stores, mass stores, cooperating club stores and dollar stores. Finally, fruits, vegetables and meat are compared using random sampling at select stores.

When taking into account sales tax and surcharges, the savings estimates are 26.9% in CONUS and 28.1% when factoring in Alaska and Hawaii, and 22.3% when meat and produce are taken out of the equation (Information Paper on 2013 Price Comparison Survey, 2013). Looking more closely, the greatest savings are realized overseas (43.4%), which, when combined with the CONUS savings, leads to the 30.5% overall savings (Information Paper on 2013 Price Comparison Survey, 2013).

In brainstorming our goals for this thesis, we originally wanted to replicate a cost savings between CONUS-based commissaries and Walmart Supercenters; however, the data required to accomplish and replicate the study was not readily available through the Freedom of Information Act. However, Chapter V does include a case study comparing price data at the local commissary against price data at the closest Walmart Supercenter.

F. SUMMARY

This chapter has provided a history of the commissary system and a brief history of Walmart Supercenters. We will compare these stores in distance and price later in the study. It has also discussed the opposition the commissary system has faced from different committees and commissions. Finally, it discussed recent market basket studies conducted by DeCA. While the commissary has undergone a number of changes, the one thing that has remained constant is the concept of benefiting military personnel of all ranks by providing healthful foods, at cost. Despite this concept, the commissary has again become a highly debated topic today. The main controversy stems from the annual subsidies DeCA receives to keep the commissary in business, which amount to billions of dollars of appropriated funds. Critics question whether these billions of dollars of

subsidies can be better spent in other DOD programs or saved in order to decrease unnecessary government outlays. More than ever, alternative options exist to provide military customers with low-cost groceries. In fact, options like Walmart may be more accessible to military personnel than commissaries throughout CONUS.

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III. RESEARCH METHODOLOGY

A. OVERVIEW

Commissary patrons claim that the most important reason why they shopped at commercial supermarkets outside of the commissary is because alternative stores were in closer proximity to their homes (Riddle, 1994). If commissary patrons consider the value of distance in their choice for supermarkets, Walmart Supercenters can be used as a comparison to commissaries because of their substantial footprint in the United States. From 1962 to present day, Walmart has emerged as the premier grocer in the United States. Walmart's first fully stocked grocery store originated in 1988, and the number of Walmart stores had grown to 3,336 Walmart Supercenters in the Continental United States (CONUS) by 2014. CONUS is defined in Joint Publication 1–02 as the 48 states between Canada and Mexico, not including Hawaii and Alaska (JP 1–02, 2010). In 2010, Walmart outsold every competitor on supermarket items, reporting $188.3 billion of sales, followed by Kroger's $76.2 billion and Safeway's $41 billion, resulting in $122 billion more sales than the closest supermarket competitor (Lepore, 2014). Each week, nearly one-third of the U.S. population visits Walmart stores (Sehgal, 2011). Military customers are part of the growing customer base of Walmart patrons. Even at military bases located in the most remote areas of the country, Walmarts are often conveniently located nearby and remain a major alternative to supplying grocery products.

B. AVAILABILITY AND ACCESSIBILITY

Do commissary beneficiaries have access to a suitable alternative within a certain distance? In order to better understand the availability and accessibility of Walmart Supercenters and commissaries to potential shoppers, we measured distances of Walmart Supercenters and commissaries to military bases throughout CONUS. Additionally, we tallied the number of Walmart Supercenters and commissary stores within a 25-mile, 50-mile, and 100-mile radius of military bases and major metropolitan areas in CONUS. We also looked at the population of retired veterans and active duty personnel per state. We

used this data to generate a table of ratios of retired and active duty personnel to Walmart Supercenters and commissaries.

C. METHOD OF DATA COLLECTION

The study used latitude and longitude coordinates for commissaries, Walmart Supercenters and military bases, which we obtained from www.poi-factory.com (2014). We verified coordinates with actual locations published on walmart.com, DeCA website (commisarries.com), and official DOD websites. Google Maps validated the street addresses that were associated with the coordinates. We used the Census Population and Housing Tables (2010) to identify major metropolitan areas and retrieved their respective coordinates from http://citylatitudelongitude.com (City Coordinates, 2014). The FY 2011 DOD Statistical Report on the Military Retirement System provided the population of military retirees. Finally, we used the Statistical Abstract Table 520 Veterans by Selected Period of Service and State: 2010 to retrieve data on veterans per state (2012).

This study uses mapping and spatial analysis conducted with Esri's ArcGIS software suite. ArcMap is the main application inside ArcGIS and we used it to accurately map study locations and measure distances between study locations. For the study, a base layer map of the 48 continuous states pictured in Figure 1 was opened using ArcMap. The base layer map only shows state boundaries and all other layers were added separately.

Figure 1. Screen shot of 48 contiguous states with zero additional layers (from ArcGIS; Source for map layer, U.S. Census)

We uploaded all coordinates into ArcMap to create separate layers for bases, commissaries, Walmart Supercenters and major metropolitan areas. We assigned color icons for reference. Figure 2 shows the base layer with the commissaries layer. Green represents commissary locations. Figure 3 represents the base layer with the major metropolitan areas layer. Blue represents major metropolitan areas. Figure 4 shows the base layer with the Walmart Supercenter layer. Maroon represents Walmart Supercenter locations. Figure 5 represents the base layer with the military bases layer. Black represents base locations.

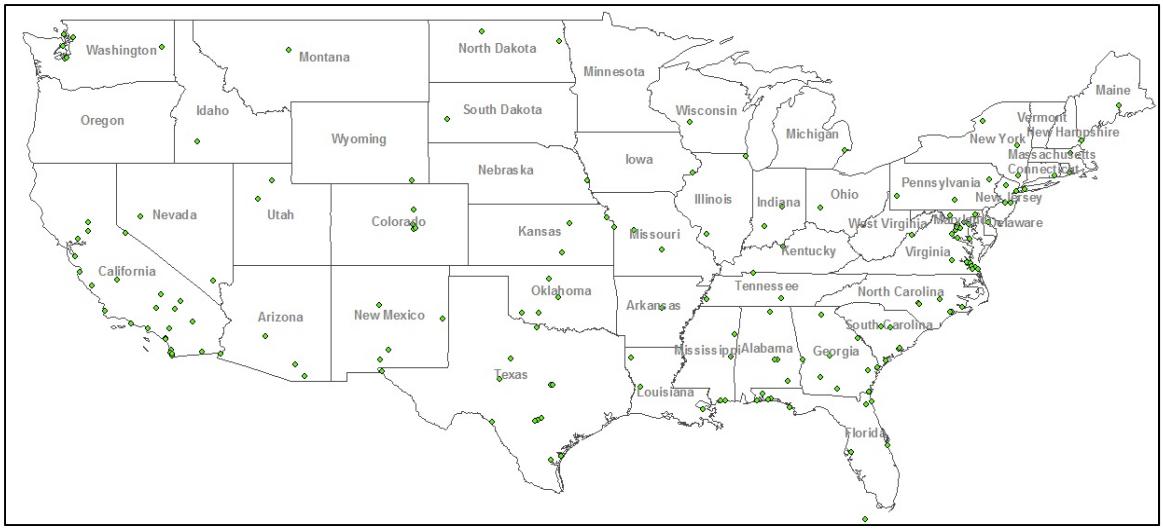

Figure 2. Commissaries throughout CONUS (from ArcGIS; Source for base layer, poi-factory.com)

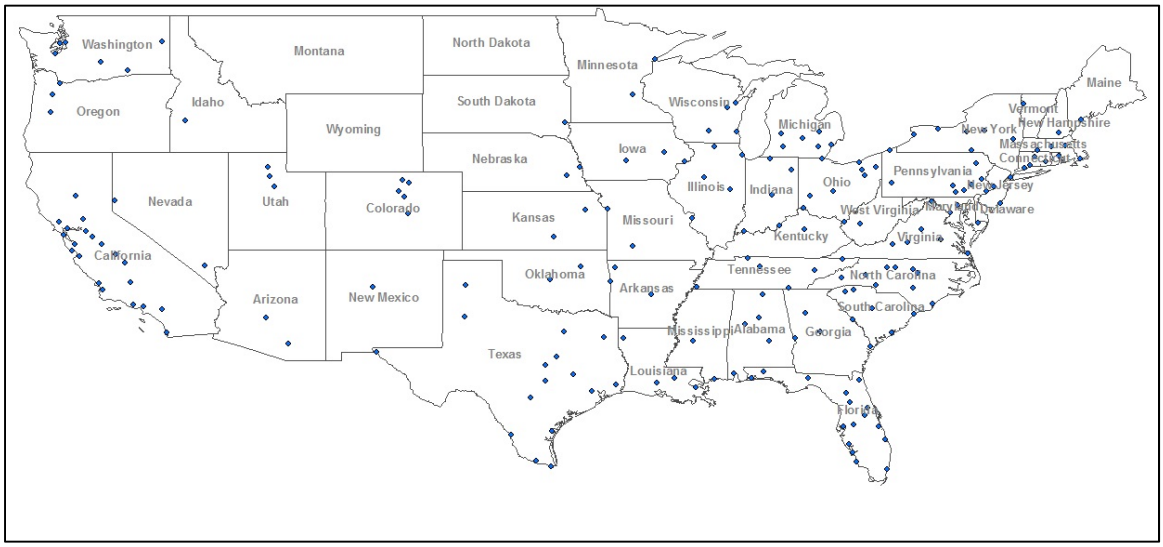

Figure 3. Major Metropolitan Areas throughout CONUS (from ArcGIS; Source for base layer, poi-factory.com)

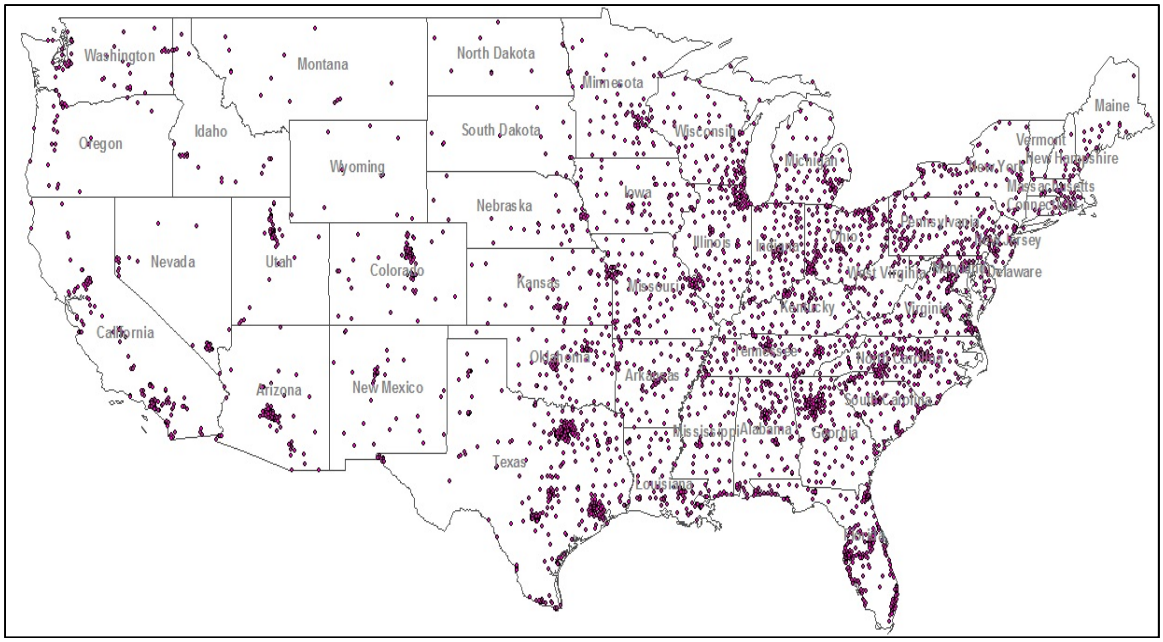

Figure 4. Walmart Supercenters throughout CONUS (from ArcGIS; Source for base layer, poi-factory.com)

Figure 5. Military bases throughout CONUS (from ArcGIS; Source for base layer, poi-factory.com)

In addition to the main variables, we also created base and major metropolitan layers. We used 25, 50 and 100 mile buffer zones for each base and major metropolitan area with their respective layer. The buffer zones highlight the number of commissaries

and Walmart Supercenters within the radius of the base or major metropolitan area, which allowed us to quantify the variables within specific distance of the radius. Figure 6 shows all layers over the base layer and the visual challenge to identify different objects needed for the study. The ability to add and remove layers in conjunction with the zoom function was a critical element in the measure and tally process. Figure 7 shows a zoomed in picture of the Monterey Peninsula with the bases, commissaries, Walmart Supercenters and 25 mile buffer for bases.

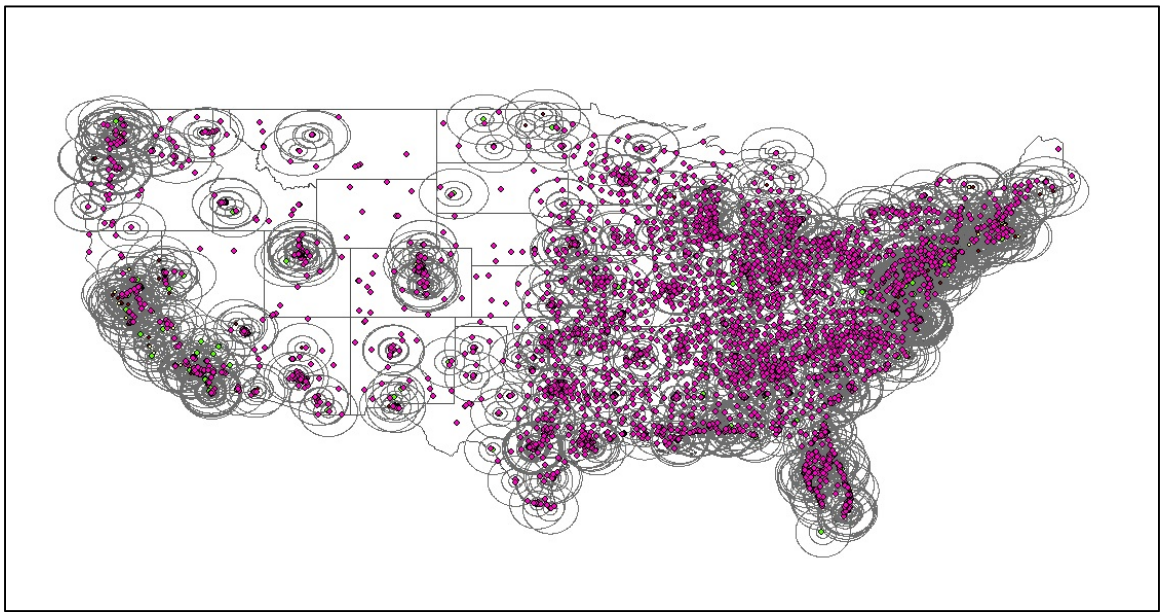

Figure 6. All the Layers (from ArcGIS; Source for base layers, poi-factory.com and citylatitudelongitude.com)

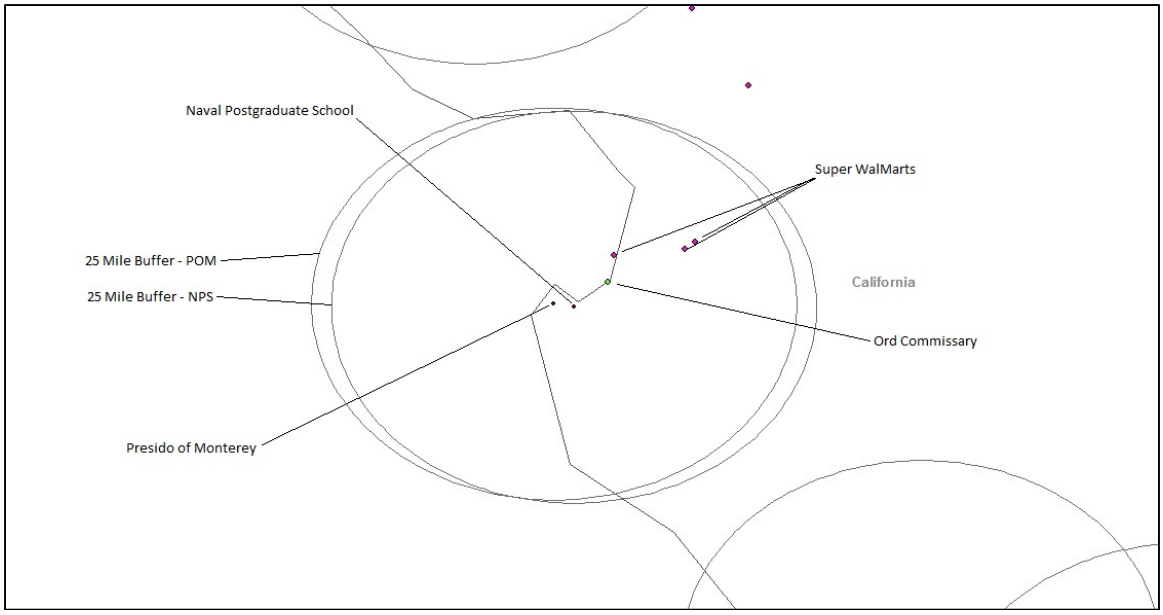

Figure 7. Bases, Walmart Supercenters and Commissary inside two 25 mile buffer for bases (from ArcGIS; Source for base layer, poi-factory.com)

The distances of Walmart Supercenters and commissaries from military bases was measured in ArcMap using the Measurement Tool, which allows the user to measure distances between different locations and multiple layers. Figure 8 shows the process to measure the distance from Fort Carson to the closest commissary. This process was repeated to measure the closest commissary and Walmart Supercenter for each base and major metropolitan area CONUS.

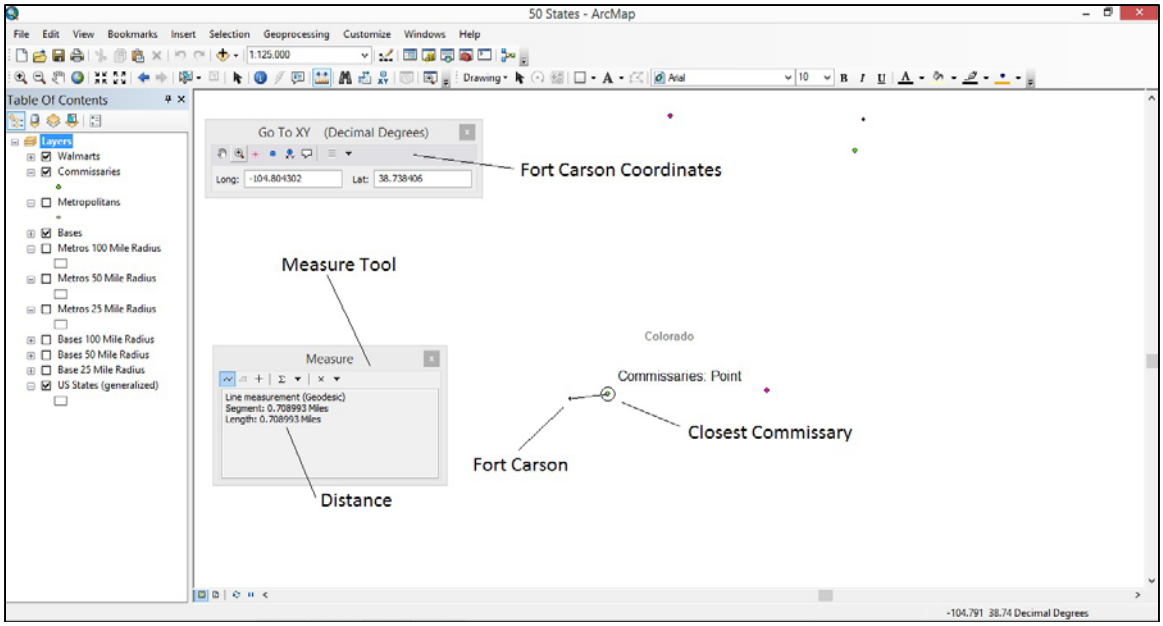

Figure 8. Measurement Tool Feature (from ArcGIS; Source for base layer, poi-factory.com)

Twenty-five-mile, 50-mile, and 100-mile buffer zones encompassed each military base and metropolitan area. The number of Walmart Supercenters and commissaries were tallied within each buffer zone. From ArcGIS, valuable data was extrapolated, allowing analyses of stores' accessibility to the customer. Figure 9 is an example of 37 Walmart Supercenters located inside Miami's 100 mile buffer zone.

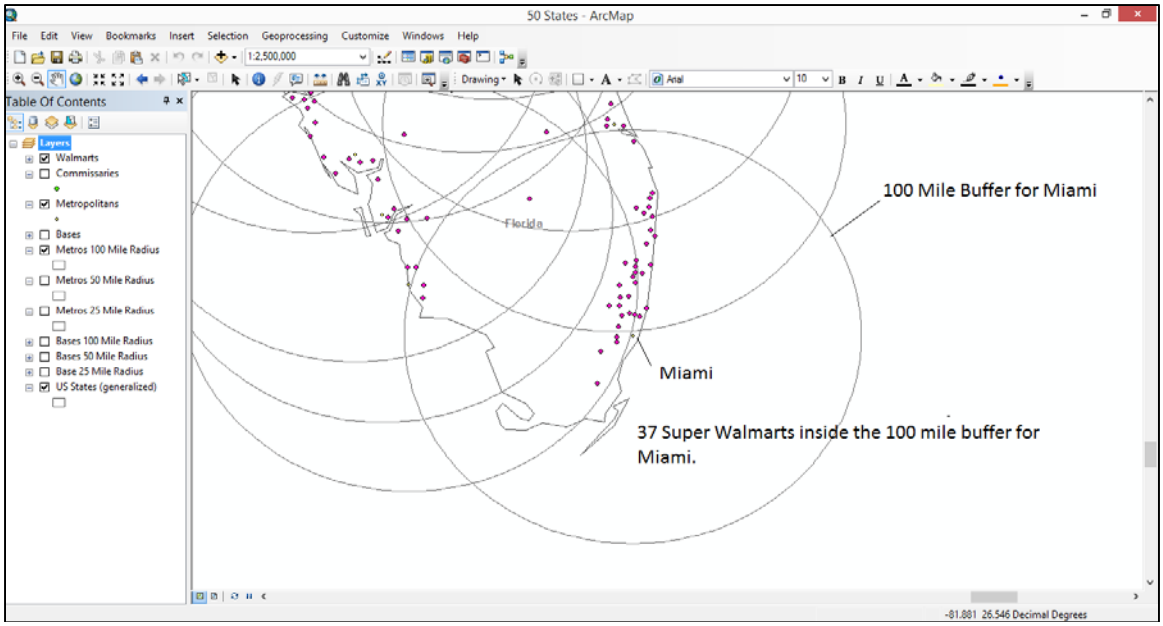

Figure 9. Counting locations inside a buffer zone (from ArcGIS; Source for base layers, poi-factory.com and citylatitudelongitude.com)

Every distance was recorded in a Microsoft Excel File and further calculated to find the average, standard deviation, minimum and maximum distances for all major metropolitans to closest commissaries and bases. The same method was used for bases. Every buffer zone count was also recorded in the excel file and the data was utilized to create ratios measuring commissaries to Walmart Supercenters in each buffer zone. We laid out the data from the buffer zone counts to show how many Walmart Supercenters there are to each commissary within 25, 50 and 100 mile radii.

D. DECA PRICE SURVEY

DeCA recently completed a price survey that found the commissary to deliver savings at 30.5 percent. This year's [2014] 30.5 percent savings figure comes from DeCA's ability now to access Nielsen's 'all outlets combined' database, which allows the agency to compare its prices to more retailers—discount department stores, club stores, drug stores and dollar stores—that also sell grocery items" (Commissaries.com, 2014). A request was submitted for a copy of the DeCA price comparison survey underlying data via the Freedom of Information Act (FOIA). The FOIA request was denied, and the underlying data was not made available by DeCA representatives, citing that it is in the

best interest of the DOD to limit release of information to the public. Without the underlying data, a local price comparison was conducted between Walmart Supercenter in Marina, California, and the Fort Ord Commissary. A list of 122 commonly purchased grocery items was used to build a standard market basket. The market basket was comprised of grocery items identified on the 2013 Consumer Price Index (CPI) consisting of cereal, bread, bakery goods, beef, poultry, seafood, eggs, dairy, fruits, vegetables, canned goods, and other grocery items (Crawford & Church, 2013).

E. LOCAL PRICE COMPARISON STUDY

We created our own price basket data for the case study because DeCA publicizes a percentage of savings it provides to customers that we intended to recreate and validate. However, DeCA does not make the study available to the public or for academic research. Our local study is an unbiased and objective approach to comparing prices between two organizations that we do not have any professional affiliation. We do not favor a specific outcome, and will represent the data impartially.

Although commissaries only use brand name products, comparable items at the Marina Walmart Supercenter were deemed to be acceptable comparisons as long as the product's weight, quality, type, and likeness were similar or identical. The price basket data was manually generated from same day site visits to the Ord Commissary and the Walmart Supercenter located in Marina California. DeCA did not provide items for a price basket, so the study created its own non-brand name grocery list built from www.mygrocerychecklist.com (2001). Examples of the non-brand name items generated from the grocery list website are canned green beans, bottled maple syrup and fresh beef of the eye round roast. Once the grocery list was created, the list was scrubbed against Walmart Supercenter Great Value Brand items and brand name items sold in Walmart Supercenter located in Marina, California, and the Ord Commissary. The strongest effort was made to utilize the same name brands between Walmart Supercenter and the commissary. Not all items could be equally matched by brand name and quantity sold; the work around is to measure price per unit, for example a 10-ounce can of corn that costs $1.00 is actually $0.10 per ounce. Additionally, not all items, such as fresh meat

and fresh vegetables are supported by the Great Value Brand. These items will be solely compared between the two stores. Chapter V will detail the findings and the actual commissary savings percentage of price per unit against Walmart Supercenter's name brand items and Great Value Brand.

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IV. LOCATION DATA AND ANALYSIS

A. WALMART SUPERCENTER AND COMMISSARY SITE SELECTION

Walmart's early expansion strategy aimed to curtail distribution costs by maintaining a dense network of store locations (Holmes, 2011). During the decision process of opening a new store, Walmart employs a very efficient site selection process focusing on the proximity to distribution channels. Walmart's growth pattern is likened to a flower blooming outward from the first store opening in Rogers, Arkansas, with a steady growth in all directions (Fettig 2006). By locating stores in close proximity to each other and expanding locally, Walmart Corporation is able to cut distribution costs and lower operating expenses, which allowed Walmart to price products lower than competitors. Holmes assessed that if Walmart retail outlets are located one mile closer to a distribution center, each retail outlet can save $2,180 to $4,000 per year in distribution costs (2011). Their distribution model allowed Walmart to expand and grow to be the nation's number one retailer. This chapter will demonstrate that there is rarely a place within CONUS that is not just a short drive away from the nearest Supercenter.

In contrast, DeCA serves its customer base best if it locates next to large bases where numerous military personnel are stationed. The location of a commissary shall have "a military mission and active duty population to justify the income benefit provided by a commissary as an integral element of the pay and benefits package for active duty Service members (DODI 1330.17, 2014). The most recent monthly data from the Defense Data Manpower Center (DMDC)…must validate that at least 500 Active, Reserve, and Guard personnel on active duty are permanently assigned to the installation or location" (DODI 1330.17, 2014). Figure 10 shows the map of commissaries located within CONUS, the network of store locations are by and large spread apart. Which strategic site-selection model provides more access to the customer? This chapter will empirically measure how accessible both Walmart Supercenters and commissaries are to military customers and other eligible commissary patrons.

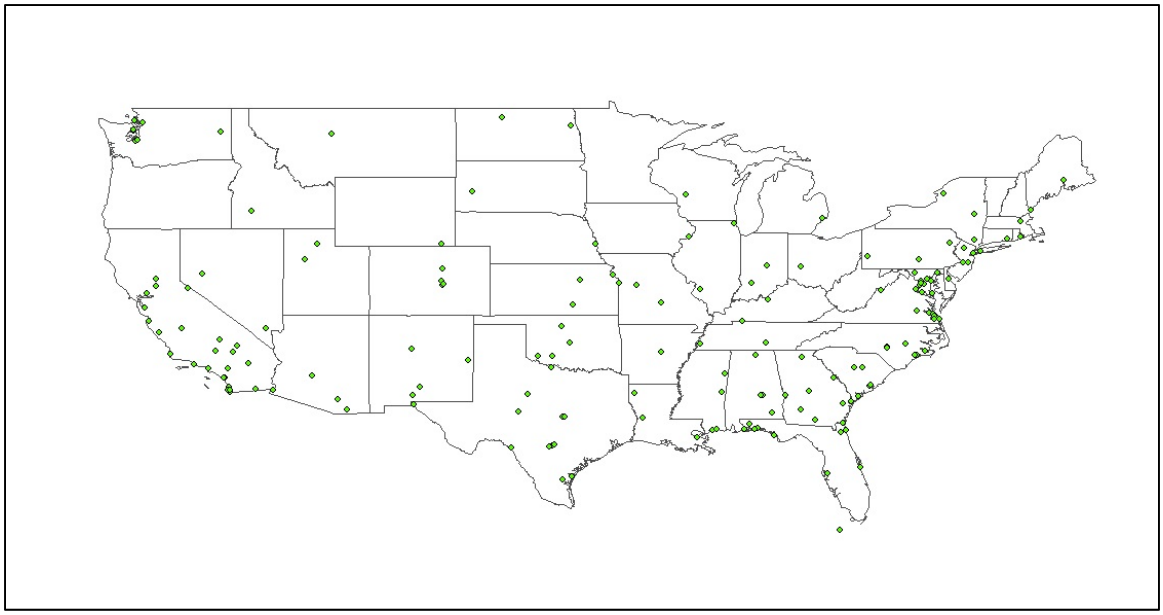

Figure 10. Mapped Commissaries in CONUS

B. OVERVIEW

This chapter presents data collected using spatial and mapping programs to measure the distances from two locations of interests: military bases and major metropolitan areas (population centers) throughout CONUS. From these central locations, the distance to the closest commissary and closest Walmart Supercenter was quantified. Additionally, the number of Walmart Supercenters and commissary stores were tallied within a 25-mile, 50-mile, and 100-mile radius of military bases and major metropolitan areas in CONUS. From this data, we can address these principal questions:

C. HOW ACCESSIBLE ARE COMMISSARIES IN MAJOR METROPOLITAN AREAS?

- How many metropolitan areas and military bases have zero Walmart Supercenters or zero commissaries within a 25 mile radius?
- Of these central locations, what is the average distance to the nearest Walmart Supercenter and commissary?
- What is the average distance between a major metropolitan area and the nearest Walmart Supercenter?
- How does that compare to the average distance to the nearest commissary?

D. HOW ACCESSIBLE ARE COMMISSARIES FROM CONUS MILITARY BASES?

- What is the average distance between a military base and the nearest Walmart Supercenter?
- How does that compare to the average distance to the nearest commissary?
- What is the average number of Walmart Supercenters and commissaries within a 25, 50, and 100-mile radius of a military base and metropolitan area?
- How many retired veterans and active duty personnel reside in each state?
- How many Walmart Supercenters and commissaries reside in each state?
- Within a given state, how do the number of retired and active duty personnel compare to the number of Walmart Supercenters and commissaries?

E. PROXIMITY TO A WALMART SUPERCENTER MATTERS

Research suggests that a newly constructed Supercenter has a negative impact on competing grocery stores in the area.

> The biggest shakeup in the supermarket industry in the last two decades is due to growing competition from 'superstores': general merchandise stores which have added a full line of groceries. Between 1997 and 2002, sales of grocery products in traditional grocery stores fell by approximately 2% in real terms, while sales of grocery products in 'general merchandise' stores, which include Wal-Mart, grew by 48% in real terms. (Basker & Noel, 2007, p. 3)

When a Walmart Supercenter opens next to or near a commissary, one can assume that the commissary's ability to maintain regular sales volumes will be challenged.

F. POPULATION CENTERS: WHERE THERE ARE NO COMMISSARIES, THERE ARE USUALLY MANY WALMART SUPERCENTERS

The DeCA mission statement is to "Deliver a vital benefit of the military pay system that sells grocery items at cost while enhancing quality of life and readiness" (DeCA Mission Statement, 2014). If one of the main purposes of a commissary is to provide a benefit to active duty personnel stationed at one of the 407 bases listed on

Appendix B, Walmart Supercenters are providing service members and their families with closer access to grocery items than commissaries, based on the data presented in this study.

- We located and mapped 3,254 Walmart Supercenter locations in CONUS. In comparison, there are only 183 commissary stores in all of CONUS. (Actual number of Walmart Supercenters and commissaries may differ as of 2014)

- Walmart Supercenters outnumber commissaries by a ratio of nearly 18 to 1

- Metropolitan Areas (Appendix A)

- Chicago-Naperville-Elgin, IL-IN-WI, Population 9,461,105

- There are zero commissaries located within 25 miles of this major metropolitan area. The nearest commissary is 33.89 miles.

- There are 22 Walmart Supercenters within 25 miles and the nearest Supercenter is 5.82 miles

- Dallas-Fort Worth-Arlington, TX, Population 6,426,214

- There are zero commissaries located within 25 miles of this major metropolitan area. The nearest commissary is 127.14 miles.

- There are 45 Walmart Supercenters within 25 miles and the nearest Supercenter is 4.84 miles

- Philadelphia-Camden-Wilmington, PA-NJ-DE-MD, Population 5,965,343

- There are zero commissaries located within 25 miles of this major metropolitan area. The nearest commissary is 127.14 miles.

- There are 15 Walmart Supercenter within 25 miles and the nearest Supercenter is 2.81 miles

- Houston-The Woodlands-Sugar Land, TX, Population 5,920,416

- There are zero commissaries located within 25 miles of this major metropolitan area. The nearest commissary is 156.73 miles.

- There are 41 Walmart Supercenters within 25 miles and the nearest Walmart is 1.26 miles

- According to Appendix A, there are 132 major metropolitan areas that have no commissaries within a 25 mile radius of its center. In comparison, there are only five metropolitan areas that do not have a Walmart Supercenter within 25 miles of its center. Taken in aggregate, there are potentially numerous commissary eligible patrons residing in highly populated areas that do not have access to a commissary.

G. PROXIMITY OF SUPERCENTERS AND COMMISSARIES TO POPULATION CENTERS

- The average distance of the closest commissary to a major metropolitan area is 55.97 miles, while the average distance of the closest Supercenter to a major metropolitan area is 5.96 miles (Table 1).

- There are an average of 8.28 Walmart Supercenters within 25 miles of a metropolitan area and only 1.16 commissaries within 25 miles of a metropolitan area (Table 1).

- Within a 50 mile buffer of every metropolitan area there are an average of 17.91 Walmart Supercenters, compared to only .96 commissaries (Table 1).

- Within a 100 mile buffer of every metropolitan area there are an average of 52.77 Walmart Supercenters, compared to only 2.87 commissaries (Table 1).

Table 1. Metropolitan Areas and Proximity to Walmart Supercenters and Commissaries

	Closest Walmart Supercenter	Closest Commissary	# of Walmart Supercenters w/in 25 miles	# of Walmart Supercenters w/in 50 miles	# of Walmart Supercenters w/in 100 miles	# of Commissaries w/in 25 miles	# of Commissaries w/in 50 miles	# of Commissaries w/in 100 miles
Average	5.96	55.97	8.28	17.91	52.77	1.16	0.96	2.87
Standard Deviation	11.38	45.11	6.07	10.91	28.14	9.51	1.5	2.97
Min	0.19	1.92	0	0	5	0	0	0
Max	86.36	211.08	45	81	119	132	10	15

If these 198 major metropolitan areas listed on Appendix A are home to numerous eligible patrons, Walmart Supercenters are providing eligible patrons and their families residing in major population centers with closer access to low-priced grocery items than commissaries, according to the data presented in this study.

H. MILITARY BASES (APPENDIX B)

- According to Appendix B, there are 133 military bases that have no commissaries within a 25 mile radius. Of those 133 military bases, the

average distance to the nearest commissary is 81.18 miles. In comparison, there are only 25 military bases that do not have a Walmart Supercenter within 25 miles. Of those 25 bases, the average distance to the nearest Walmart Supercenter is 49.30 miles.

- The average distance of the closest commissary to a base is 31.09 miles, while the average distance of the closest Walmart Supercenter to a base is 8.97 miles (Table 2).

- There is an average of 7.63 Walmart Supercenters within 25 miles of a base and only 1.63 commissaries within 25 miles of a base (Table 2).

- Within a 50 mile buffer of every base there is an average of 17.28 Walmart Supercenters, compared to only 2.21 commissaries (Table 2).

- Within a 100 mile buffer of every base there is an average of 47.24 Walmart Supercenters, compared to only 4.16 commissaries (Table 2).

Table 2. Military Bases and Proximity to Walmart Supercenters and Commissaries

	Closest Walmart Supercenter	Closest Commissary	# of Walmart Supercenters w/in 25 miles	# of Walmart Supercenters w/in 50 miles	# of Walmart Supercenters w/in 100 miles	# of Commissaries w/in 25 miles	# of Commissaries w/in 50 miles	# of Commissaries w/in 100 miles
Average	8.97	31.09	7.63	17.28	47.24	1.67	2.21	4.16
Standard D	14.53	49.33	6.98	12.73	26.51	6.77	2.47	3.87
Min	0.44	0	0	0	1	0	0	0
Max	97.3	279.03	42	78	121	133	11	17

I. RATIO ANALYSIS: RETIRED VETERANS, ACTIVE DUTY, WALMART SUPERCENTERS, AND COMMISSARIES BY STATE

Table 3 depicts the number of active duty personnel and retired veterans by state and the number of Walmart Supercenters and commissaries by state. Table 4 presents various ratios calculated using the data from Table 3.

- Population and Retail Outlet Analysis

- There is an average of 40,497.20 retired veterans per state (Table 3)

- There is an average of 20,906.39 active duty personnel per state (Table 3)

- Together there is an average of 64,403.59 retired and active duty veterans per state (Table 3)

- On average, there are 66.49 Walmart Supercenters per state, while there are 3.45 commissaries per state

There is a higher customer-to-store ratio for Walmart Supercenters than commissaries, which offers better accessibility. The customer-to-store ratio can be used to quantify availability to the customer. In the case of active duty personnel, for example, the customer-to-store ratio is about 443:1 for Walmart Supercenters. The ratio is about 4,814:1 for commissaries. We can now determine that 443:1 is much better than 4,814:1 by more than a factor of 10. The smaller ratio indicates there are more stores available per customer. The larger ratio indicates fewer stores per customer. In this manner, the customer-to-store ratio measures availability of retail outlets to customers. Seventeen states have one commissary and four states have zero commissaries, which limits accessibility for eligible beneficiaries in 44% of CONUS. The ratios prove Walmart Supercenters are more accessible to eligible beneficiaries and is a critical factor for the price study utilizing Walmart Supercenters as a suitable alternative to the commissary.

- Customer-to-Store Ratio Analysis (Table 4)
- In each state, there is an average of 746.49 retired veterans per Walmart Supercenter (ratio of 747:1)
- In each state, there is an average of 11,468.09 retired veterans per commissary (ratio of 11,468:1)
- In each state, there is an average of 443.27 active duty personnel per Walmart Supercenter (ratio of 443:1)
- In each state, there is an average of 4,813.88 active duty personnel per commissary (ratio of 4,814:1)

Table 3. Retired and Active Veterans by State. Number of Walmart Supercenters and Commissaries by State

State	Retired Veterns	Active Duty Population	Total Population	Number of Walmarts	Number of Commissaries
Alabama	57726	11896	69622	95	4
Arizona	54540	21343	75883	79	5
Arkansas	25770	6717	32487	73	1
California	164180	117806	281986	107	24
Colorado	49648	35404	85052	66	4
Connecticut	10597	1914	12511	7	1
Delaware	8493	3870	12363	6	1
District of Columbia	2620	13424	16044	2	1
Florida	187224	42642	229866	204	10
Georgia	91390	73988	165378	141	9
Idaho	13115	4967	18082	21	1
Illinois	36391	10111	46502	129	3
Indiana	24635	3108	27743	92	2
Iowa	12268	1296	13564	56	0
Kanasas	21177	25482	46659	56	3
Kentucky	27469	43138	70607	76	2
Louisiana	25795	17398	43193	84	3
Maine	12110	730	12840	18	1
Marland	52928	29160	82088	25	7
Massachessetts	19052	3205	22257	24	1
Michigan	28595	2858	31453	83	1
Minnesota	18248	1897	20145	61	0
Mississippi	26940	9895	36835	62	4
Missouri	37272	17925	55197	108	3
Montana	8908	3623	12531	13	1
Nebraska	14169	6845	21014	33	1
Nevada	27462	10034	37496	30	2
New Hampshire	9512	675	10187	15	1
New Jersey	20021	6673	26694	24	3
New Mexico	21465	11038	32503	34	4
New York	38775	29553	68328	73	5
North Carolina	87578	116073	203651	133	6
North Dakota	5025	7209	12234	12	2
Ohio	45164	8261	53425	137	1
Oklahoma	35225	21673	56898	78	4
Oregon	21012	1615	22627	26	0
Pennsylvania	50275	5215	55490	109	3
Rhode Island	5463	1490	6953	5	1
South Carolina	56846	32518	89364	79	5
South Dakota	7616	3910	11526	13	1
Tennessee	52273	3511	55784	109	2
Texas	192192	131548	323740	341	13
Utah	15669	6237	21906	40	2
Vermont	3785	565	4350	1	0
Virginia	149888	63160	213048	101	11
Washington	71264	46161	117425	48	7
West Virginia	11015	1199	12214	38	1
Wisconsin	20441	2046	22487	80	1
Wyoming	5137	3407	8544	11	1
Average	40497.20	20906.39	61403.59	66.49	3.45
Standard Deviation	45442.13	30941.44	73090.71	60.38	4.20

Table 4. Ratio Analysis Using Data from Table 3

State	Retired Veterns/# of Walmarts	Active Duty/# of Walmarts	Total Pop/# of Walmarts	Retired Veterans/ # of Commissaries	Active Duty/# of Commissaries	Total Pop/# of Commissaries
Alabama	607.64	125.22	732.86	14431.50	2974.00	17405.50
Arizona	690.38	270.16	960.54	10908.00	4268.60	15176.60
Arkansas	353.01	92.01	445.03	25770.00	6717.00	32487.00
California	1534.39	1100.99	2635.38	6840.83	4908.58	11749.42
Colorado	752.24	536.42	1288.67	12412.00	8851.00	21263.00
Connecticut	1513.86	273.43	1787.29	10597.00	1914.00	12511.00
Delaware	1415.50	645.00	2060.50	8493.00	3870.00	12363.00
District of Columbia	1310.00	6712.00	8022.00	2620.00	13424.00	16044.00
Florida	917.76	209.03	1126.79	18722.40	4264.20	22986.60
Georgia	648.16	524.74	1172.89	10154.44	8220.89	18375.33
Idaho	624.52	236.52	861.05	13115.00	4967.00	18082.00
Illinois	282.10	78.38	360.48	12130.33	3370.33	15500.67
Indiana	267.77	33.78	301.55	12317.50	1554.00	13871.50
Iowa	219.07	23.14	242.21	0.00	0.00	0.00
Kanasas	378.16	455.04	833.20	7059.00	8494.00	15553.00
Kentucky	361.43	567.61	929.04	13734.50	21569.00	35303.50
Louisiana	307.08	207.12	514.20	8598.33	5799.33	14397.67
Maine	672.78	40.56	713.33	12110.00	730.00	12840.00
Marland	2117.12	1166.40	3283.52	7561.14	4165.71	11726.86
Massachessetts	793.83	133.54	927.38	19052.00	3205.00	22257.00
Michigan	344.52	34.43	378.95	28595.00	2858.00	31453.00
Minnesota	299.15	31.10	330.25	0.00	0.00	0.00
Mississippi	434.52	159.60	594.11	6735.00	2473.75	9208.75
Missouri	345.11	165.97	511.08	12424.00	5975.00	18399.00
Montana	685.23	278.69	963.92	8908.00	3623.00	12531.00
Nebraska	429.36	207.42	636.79	14169.00	6845.00	21014.00
Nevada	915.40	334.47	1249.87	13731.00	5017.00	18748.00
New Hampshire	634.13	45.00	679.13	9512.00	675.00	10187.00
New Jersey	834.21	278.04	1112.25	6673.67	2224.33	8898.00
New Mexico	631.32	324.65	955.97	5366.25	2759.50	8125.75
New York	531.16	404.84	936.00	7755.00	5910.60	13665.60
North Carolina	658.48	872.73	1531.21	14596.33	19345.50	33941.83
North Dakota	418.75	600.75	1019.50	2512.50	3604.50	6117.00
Ohio	329.66	60.30	389.96	45164.00	8261.00	53425.00
Oklahoma	451.60	277.86	729.46	8806.25	5418.25	14224.50
Oregon	808.15	62.12	870.27	0.00	0.00	0.00
Pennsylvania	461.24	47.84	509.08	16758.33	1738.33	18496.67
Rhode Island	1092.60	298.00	1390.60	5463.00	1490.00	6953.00
South Carolina	719.57	411.62	1131.19	11369.20	6503.60	17872.80
South Dakota	585.85	300.77	886.62	7616.00	3910.00	11526.00
Tennessee	479.57	32.21	511.78	26136.50	1755.50	27892.00
Texas	563.61	385.77	949.38	14784.00	10119.08	24903.08
Utah	391.73	155.93	547.65	7834.50	3118.50	10953.00
Vermont	3785.00	565.00	4350.00	0.00	0.00	0.00
Virginia	1484.04	625.35	2109.39	13626.18	5741.82	19368.00
Washington	1484.67	961.69	2446.35	10180.57	6594.43	16775.00
West Virginia	289.87	31.55	321.42	11015.00	1199.00	12214.00
Wisconsin	255.51	25.58	281.09	20441.00	2046.00	22487.00
Wyoming	467.00	309.73	776.73	5137.00	3407.00	8544.00
Average	746.49	443.27	1189.75	11468.09	4813.88	16281.97
Standard Deviation	609.17	956.85	1277.01	8043.43	4332.49	9857.59

J. SUMMARY

The data revealed in this study is useful when discussing the commissary as a benefit. In order for the commissary to be a true benefit, it must be available to those it proposes to serve. Numerous eligible patrons do not have access to a commissary due to the limited stores that exist throughout CONUS. To put this into perspective, Defense Distribution Center Susquehanna and Defense Supply Center Philadelphia are two small bases located in the state of Pennsylvania. Together, there are 594 active duty sponsors and 1,217 dependents stationed at these two bases (Demographics, 2012). If a young service member and his or her family stationed at DDC Susquehanna wished to shop at a commissary, he or she would have to drive 17.16 miles. However, the same service member would only have to drive 4.35 miles to the nearest Walmart Supercenter. If a young service member and his or her family stationed at DSC Philadelphia wished to shop at a commissary, he or she would have to drive 25.68 miles. However, the same service member would only have to drive 3.33 miles to the nearest Walmart Supercenter. The large installations with sprawling military communities most often have a commissary nearby to support the active duty service members and their families. According to the data, many smaller bases are not supported by a commissary. The numerous personnel stationed at smaller bases are many times left with fewer options and must either shop at a Walmart Supercenter or drive long distances in order to buy discount groceries. Martin Alcott in his 1994 thesis argued that the commissary cannot be a true benefit if it is not readily available to eligible personnel. That argument is just as relevant today as it was twenty years ago. If the mission of the commissary is to provide a benefit that supplements the military pay system through low-cost groceries, Walmart Supercenters already provide this benefit to the general public and are more readily available to potential commissary patrons throughout CONUS.

V. PRICE DATA AND ANALYSIS

A. OVERVIEW

This chapter presents the shelf price data we collected on Thursday October 16, 2014, from the Fort Ord Commissary and the Marina, California, Walmart Supercenter. This case study's purpose was to determine the actual cost savings to military members based on a 122-item market basket containing exact items (apples to apples) and a market basket containing Walmart's Great Value generic brand versus items at the commissary. It is aimed at answering the following two research questions:

- What is the price difference if a patron purchases the exact items at a commissary and a Walmart Supercenter?
- Can the price difference be further reduced or eliminated by purchasing generic alternatives?

While the market basket may not be an actual market basket because an average shopper would not buy one of each item, thereby making quantities arbitrary; this study uses the term "market basket" to refer to the 122 items we utilized in the price comparison.

B. MARKET BASKET DATA

The first step in completing the price comparison was to determine a list of items based on our shopping habits and the 2013 Consumer Price Index (CPI). It was composed of a variety of meat, produce, dairy products, grocery and frozen products. Our next step was to manually generate the price data from same day site visits to the Fort Ord Commissary and the Walmart Supercenter located in Marina, California. The findings are broken down by item, the name brand at the commissary and Walmart, item's size and unit and the price at the commissary, Walmart, Walmart's generic Great Value brand, if applicable, and the savings and percentage saved by shopping at the commissary relative to shopping at the Walmart Supercenter. All items are of equal size with the exception of seven Great Value brand items which were not available in comparable sizes including:

- Eggs–12 eggs

- Canned pinto beans–15.5 oz
- Canned northern beans–15.5 oz
- Canned kidney beans–15.5 oz
- Canned chicken–12.5 oz
- Tortillas–8 tortillas
- Frozen waffles–8 waffles

The price data, savings and percentage saved is illustrated in Table 5.

Table 5. Price Data between Fort Ord Commissary and Marina, CA, Walmart Supercenter

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
Meat										
Ground Beef 93% Lean		1	lb	3.81	5.98	2.17	36.29%			
Beef Eye of the Round Roast		1	lb	4.04	6.94	2.90	41.79%			
Boneless Chicken Breast	Tyson	1	lb	2.40	3.35	0.95	28.36%			
Chicken Drumsticks	Tyson	1	lb	0.96	1.99	1.03	51.76%			
Deli Ham	Eckrich/Sara Lee	1	lb	6.99	6.98	-0.01	-0.14%	3.99	-3.00	-42.92%
Deli Turkey	Butterball/Sara Lee	1	lb	6.99	6.98	-0.01	-0.14%	3.99	-3.00	-42.92%
Bacon	Oscar Meyer	1	lb	3.79	5.48	1.69	30.84%	4.48	0.69	18.21%
Pork Butterfly Chops		1	lb	3.57	5.36	1.79	33.40%			
Pork Shoulder Roast		1	lb	2.58	2.68	0.10	3.73%			
Ribeye Steak		1	lb	8.00	10.57	2.57	24.31%			
T-Bone Steak		1	lb	6.41	7.98	1.57	19.67%			
Cube Steak		1	lb	4.37	5.98	1.61	26.92%			
Chicken	Tyson	1	lb	1.21	1.77	0.56	31.64%			

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
Thighs										
Chicken Wings	Tyson	1	lb	1.55	2.40	0.85	35.42%			
Whole Chicken	Tyson	1	lb	1.19	1.07	-0.12	-11.21%			
Mild Sausage	Johnsonville	1	pack	3.89	4.78	0.89	18.62%			
Produce										
Fresh Fuji Apples		1	lb	1.09	0.98	-0.11	-11.22%			
Fresh Bananas		1	lb	0.59	0.57	-0.02	-3.51%			
Fresh Lime		1	ea	0.29	0.58	0.29	50.00%			
Fresh Naval Oranges		1	ea	1.29	0.82	-0.47	-57.32%			
Fresh Haas Avocado		1	ea	0.99	0.68	-0.31	-45.59%			
Fresh Broccoli		1	lb	1.29	1.28	-0.01	-0.78%			
Fresh Carrots		5	lb	2.49	1.68	-0.81	-48.21%			
Fresh Cauliflower		1	ea	1.49	2.28	0.79	34.65%			
Fresh Celery		1	ea	0.79	1.98	1.19	60.10%			
Fresh Garlic		1	lb	1.99	3.28	1.29	39.33%			
Fresh Iceberg Lettuce (Head)		1	ea	1.19	1.08	-0.11	-10.19%			
Fresh Yellow Onions		1	lb	0.59	0.58	-0.01	-1.72%			
Fresh Green Peppers		1	ea	0.99	0.50	-0.49	-98.00%			
Fresh Russet Potato		5	lb	1.99	1.77	-0.22	-12.43%			
Fresh Slicing Tomatoes		1	lb	1.19	0.98	-0.21	-21.43%			
Dairy										
Whole Milk	Producers	1	gal	4.14	4.82	0.68	14.11%	3.85	-0.29	-7.53%
Vanilla Soy Milk	Silk	0.5	gal	2.99	3.28	0.29	8.84%	2.48	-0.51	-20.56%
Shredded Mozzarella Cheese	Kraft	0.5	lb	2.00	2.98	0.98	32.89%	2.38	0.38	15.97%
Whipped Cream Cheese	Philadelphia	12	oz	1.69	3.68	1.99	54.08%	2.98	1.29	43.29%
Eggs	Egg Land's Best /	18	pack	2.99	3.18	0.19	5.97%	2.97	-0.02	-0.67%

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
	Firstlight									
Sour Cream	Daisy	16	oz	1.59	1.98	0.39	19.70%	1.68	0.09	5.36%
Yogurt	Activa Greek 4 pack	4.53	oz	2.08	3.78	1.70	44.97%	3.38	1.30	38.46%
Kraft Singles	Kraft	24	sl	2.99	3.98	0.99	24.87%	3.48	0.49	14.08%
Frozen Vanilla Ice Cream	Breyers	48	fl oz	2.99	3.87	0.88	22.74%	3.44	0.45	13.08%
Grocery										
Canned Mixed Fruit	Delmonte	15	oz	0.75	1.38	0.63	45.65%	0.98	0.23	23.47%
Canned Peaches	Delmonte	15	oz	0.75	1.38	0.63	45.65%	0.98	0.23	23.47%
Canned Pears	Delmonte	15	oz	0.75	1.38	0.63	45.65%	0.98	0.23	23.47%
Canned Pineapples	Dole	8	oz	0.65	0.78	0.13	16.67%	0.67	0.02	2.99%
Canned Carrots	Delmonte	14.5	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Canned Corn	Delmonte	15.25	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Canned Green beans	Delmonte	14.5	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Canned Spinach Leaf	Delmonte	13.5	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Canned Peas	Delmonte	15	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Canned Tomatoes	Delmonte	14.5	oz	0.89	0.88	-0.01	-1.14%	0.72	-0.17	-23.61%
Canned Pinto Beans	Bush	16	oz	0.59	0.92	0.33	35.87%	0.68	0.09	13.24%
Canned Northern Beans	Bush	15.8	oz	0.69	0.92	0.23	25.00%	0.68	-0.01	-1.47%
Canned Kidney Beans	Bush	16	oz	0.69	0.92	0.23	25.00%	0.68	-0.01	-1.47%
Pork N Beans	Van Camp	15	oz	0.79	0.86	0.07	8.14%	0.66	-0.13	-19.70%
Canned Chicken	Hormel	10	oz	2.68	2.28	-0.40	-17.54%	2.28	-0.40	-17.54%
Canned Albacore Tuna	Starkist	5	oz	1.00	1.38	0.38	27.54%	1.37	0.37	27.01%
Black Pepper Ground	McCormick	4	oz	2.70	3.25	0.55	16.92%	2.88	0.18	6.25%
Salt Iodized	Morton	10	oz	0.69	0.82	0.13	15.85%	0.50	-0.19	-38.00%
Honey	Sue Bee/Miller's	16	oz	3.99	3.94	-0.05	-1.27%	3.47	-0.52	-14.99%
Jelly	Welches	32	oz	1.69	1.98	0.29	14.65%	1.72	0.03	1.74%

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
Ketchup	Heinz	20	oz	1.53	2.22	0.69	31.08%	1.24	-0.29	-23.39%
Mayonnaise	Kraft	30	fl oz	2.99	3.48	0.49	14.08%	2.96	-0.03	-1.01%
Mustard	French's	8	oz	0.99	1.18	0.19	16.10%	0.68	-0.31	-45.59%
Peanut Butter	Jif	40	oz	4.99	5.67	0.68	11.99%	3.98	-1.01	-25.38%
Salsa	Pace	24	oz	2.69	2.68	-0.01	-0.37%	1.98	-0.71	-35.86%
Syrup	Aunt Jemima	24	fl oz	1.89	2.98	1.09	36.58%	1.98	0.09	4.55%
Cooking Spray	Pam	8	oz	2.99	3.24	0.25	7.72%	2.18	-0.81	-37.16%
Olive Oil	Bertolli	25.5	oz	5.99	7.98	1.99	24.94%	4.88	-1.11	-22.75%
Vegetable Oil	Wesson	48	fl oz	2.19	2.50	0.31	12.40%	2.24	0.05	2.23%
Italian Dressing	Wishbone	16	oz	1.99	1.98	-0.01	-0.51%	1.48	-0.51	-34.46%
Ranch Dressing	Wishbone	16	oz	1.99	1.98	-0.01	-0.51%	1.48	-0.51	-34.46%
Cookies	Oreo	14.3	oz	2.50	2.98	0.48	16.11%	1.98	-0.52	-26.26%
Crackers	Nabisco Saltines	453	g	2.39	2.50	0.11	4.40%	1.78	-0.61	-34.27%
Potato Chips	Lays Wavy	10	oz	3.03	2.50	-0.53	-21.20%	1.98	-1.05	-53.03%
Cashew Halves	Planters	14	oz	5.54	5.98	0.44	7.36%	5.48	-0.06	-1.09%
Chicken Noodle Soup	Campbell’s	10.75	oz	1.34	0.80	-0.54	-67.50%	0.64	-0.70	-109.38%
Cream of Chicken Soup	Campbell’s	10.75	oz	0.67	0.80	0.13	16.25%	1.25	0.58	46.40%
Cream of Mushroom Soup	Campbell’s	10.75	oz	0.67	0.75	0.08	10.67%	1.25	0.58	46.40%
Tomato Soup	Campbell’s	10.75	oz	0.60	0.75	0.15	20.00%	0.64	0.04	6.25%
Coffee	Folgers Classic Roast	33.9	oz	7.99	9.68	1.69	17.46%	6.98	-1.01	-14.47%
Orange Juice	Minute Maid	0.5	gal	2.39	2.88	0.49	17.01%	2.28	-0.11	-4.82%
Cranberry Juice	Oceanspray	64	fl oz	2.38	2.48	0.10	4.03%	2.28	-0.10	-4.39%
Parmesan Cheese	Kraft	8	oz	3.96	3.72	-0.24	-6.45%	2.98	-0.98	-32.89%
Alfredo Sauce	Bertolli	15	oz	1.99	2.00	0.01	0.50%	1.50	-0.49	-32.67%
Spaghetti Sauce	Ragu	45	oz	2.79	2.98	0.19	6.38%	2.65	-0.14	-5.28%
Tomato Paste	Hunts	6	oz	0.50	0.68	0.18	26.47%	0.46	-0.04	-8.70%
Tomato Sauce	Hunts	8	oz	0.39	0.44	0.05	11.36%	0.33	-0.06	-18.18%
Elbow Macaroni	Barilla	1	lb	0.99	1.28	0.29	22.66%	1.00	0.01	1.00%

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
Spaghetti Pasta	Barilla	1	lb	0.99	1.28	0.29	22.66%	1.00	0.01	1.00%
Refried Beans	Rosarita	16	oz	0.99	1.00	0.01	1.00%	0.85	-0.14	-16.47%
White Rice	Mahatma	5	lb	5.18	4.48	-0.70	-15.63%	2.50	-2.68	-107.20%
Oatmeal	Quaker	42	oz	2.25	3.98	1.73	43.47%	3.28	1.03	31.40%
Raisin Bran	Kellogg's	18.7	oz	3.35	2.98	-0.37	-12.42%	1.98	-1.37	-69.19%
Corn Flakes	Kellogg's	18	oz	3.35	2.98	-0.37	-12.42%	1.98	-1.37	-69.19%
Poptarts	Poptarts	8	pack	1.50	1.98	0.48	24.24%	1.48	-0.02	-1.35%
Flour All Purpose	Gold Medal	5	lb	1.89	1.98	0.09	4.55%	1.68	-0.21	-12.50%
Pancake Mix	Aunt Jemima	32	oz	1.69	2.68	0.99	36.94%	1.62	-0.07	-4.32%
Baking Mix	Bisquick	40	oz	2.76	3.18	0.42	13.21%	2.18	-0.58	-26.61%
Sugar	C&H	4	lb	1.92	2.08	0.16	7.69%	1.98	0.06	3.03%
Applesauce	Motts	48	oz	2.42	2.68	0.26	9.70%	1.98	-0.44	-22.22%
Shake Seasoning	Shake N Bake	4.75	oz	1.50	1.94	0.44	22.68%	1.46	-0.04	-2.74%
Chili Sauce	Heinz	12	oz	1.50	2.14	0.64	29.91%	1.44	-0.06	-4.17%
Cocktail Sauce	Heinz	12	oz	1.50	2.14	0.64	29.91%	1.36	-0.14	-10.29%
Apple Cider Vinegar	Musselman's / Heinz	32	fl oz	1.29	2.12	0.83	39.15%	1.50	0.21	14.00%
Pickle Spears	Vlasic	24	fl oz	1.50	2.48	0.98	39.52%	1.96	0.46	23.47%
Canned Beefaroni	Chef Boyardee	15	oz	0.75	0.75	0.00	0.00%	0.44	-0.31	-70.45%
Canned Sauerkraut	Delmonte	14.5	oz	0.50	0.98	0.48	48.98%	0.68	0.18	26.47%
Pepsi 2 Liter	Pepsi	1	ea	0.99	1.48	0.49	33.11%	0.84	-0.15	-17.86%
Pepsi 12 pack cans	Pepsi	1	ea	2.99	3.00	0.01	0.33%	2.68	-0.31	-11.57%
Coke 2 Liter	Coke	1	ea	1.19	1.48	0.29	19.59%	0.84	-0.35	-41.67%
Coke 12 pack cans	Coke	1	ea	4.59	4.38	-0.21	-4.79%	2.68	-1.91	-71.27%
Cheezit	Nabisco	13.7	oz	2.50	2.88	0.38	13.19%	1.98	-0.52	-26.26%
Taco Shells	Old El Paso Taco Shell	12	count	1.50	1.38	-0.12	-8.70%	1.00	-0.50	-50.00%
Bottle Water	Nestle	1	gal	0.99	1.00	0.01	1.00%	0.88	-0.11	-12.50%
Mini Nilla Wafers	Nabisco	11	oz	3.14	3.28	0.14	4.27%	2.25	-0.89	-39.56%
Hot Dog Buns	Rainbo	8	buns	2.14	1.98	-0.16	-8.08%	1.38	-0.76	-55.07%
Wheat Bread	Natures Own	1	loaf	1.77	2.38	0.61	25.63%	1.38	-0.39	-28.26%
White	Wonder	1	loaf	1.69	2.48	0.79	31.85%	1.38	-0.31	-22.46%

				Commissary	Walmart			Great Value Brand		
Item	**Name Brand (Commissary/ Walmart)**	**Size**	**Unit**	**Price**	**Price**	**Savings**	**% Saved**	**Price**	**Savings**	**% Saved**
Bread										
Tortillas (Med Size)	Guerrero	10	ea	2.10	2.48	0.38	15.32%	1.98	-0.12	-6.06%
Frozen										
Frozen Carrots	Pictswt	16	oz	1.09	1.00	-0.09	-9.00%	0.98	-0.11	-11.22%
Frozen Tater Tots	Oreida	5	lb	4.41	5.98	1.57	26.25%	4.48	0.07	1.56%
Frozen Waffles	Eggo	10	ea	2.16	2.38	0.22	9.24%	1.68	-0.48	-28.57%
TOTAL				**265.69**	**319.33**			**259.94**		

C. ANALYSIS

Table 5 illustrates that given our 122-item market basket composed of meat, produce, dairy, grocery and frozen products, a shopper will pay $265.69 at the commissary and $319.33 for the same items at the Walmart Supercenter, resulting in a total savings of $53.64 or 16.80%, prior to any sales tax or commissary surcharge. The savings will completely be reduced and the shopper will end up saving $5.75 or 2.21% by purchasing the same 122 items, this time substituting Great Value brands for the name brands when available. In California, some items are exempt from sales tax including many groceries; therefore, the savings are further reduced due to the mandatory five percent commissary surcharge (What is Taxable, 2013).

While it can be argued the 16.80% savings on name brand products is substantial, it is far less than the findings illustrated in the 2013 DeCA price comparison. The DeCA comparison, which utilized the all outlets combined database (AOC) through the Nielsen database was much broader in scope and included supermarkets such as Kroger, Winn Dixie, Giant Foods, HEB, Publix, and Food Lion as well as drug, mass, cooperating club stores and dollar stores (Information Paper on 2013 Price Comparison Survey, 2013). The study further used random sampling techniques on items which were not scannable and determined that the savings, without taking into account surcharge or sales tax, was

28.50% in CONUS (Information Paper on 2013 Price Comparison Survey, 2013). Additionally, the study failed to mention the mandatory five percent commissary surcharge discussed above. Depending on the location of the commissary, this can also reduce the savings as only 12 of the 48 CONUS states currently have a sales tax on groceries, ranging from 1% to 7% and of the twelve states that do, only three are above 5% (Federation of Tax Administrators, 2014).

As discussed above, we realize this may not be considered an actual market basket because an average shopper wouldn't buy one of each item, thereby making quantities arbitrary, therefore, we broke the data down further to illustrate the percentage savings on each individual item. As illustrated a shopper is able to save money on ninety one of the one hundred twenty two items by utilizing the commissary on exact items. The number of items a shopper is able to save money on is further decreased when the shopper is willing to purchase Great Value Brands in place of name brands, as only thirty three of the ninety four applicable items result in a savings.

Tables 6 and 7 illustrate the savings determined through our case study, as they show the percentage saved by category and the average percentage saved by category by shopping at the commissary relative to Walmart Supercenter, broken down by name brand products versus the Great Value brand. Table 8 presents a clearer picture as it shows the percentage savings determined by DeCA in their 2013 price comparison (Information Paper on 2013 Price Comparison Survey, 2013).

Table 6. Percentage Savings at the Commissary by Category (Brand Names versus Great Value Brand)

	Savings at Commissary (Brand Names)	Savings at Commissary (Great Value)
Meat	23.09%	15.77%
Produce	4.15%	N/A
Dairy	25.64%	11.94%
Grocery	13.69%	-15.51%
Frozen	18.16%	-7.28%
Total	16.80%	-2.21%

Table 7. Average Percentage Saved at the Commissary (Brand Names versus Great Value Brand)

	Average Percentage Saved at Commissary (Brand Names)	Average Percentage Saved at Commissary (Great Value)
Meat	23.20%	-22.54%
Produce	-8.42%	N/A
Dairy	25.35%	11.27%
Grocery	15.73%	-13.43%
Frozen	8.83%	-12.74%
Total	14.28%	-11.34%

Table 8. Percentage Savings at the Commissary (Information Paper on 2013 Price Comparison Survey, 2013)

	Savings at Commissary
Meat	38.80%
Produce	47.80%
Dairy (AOC)	26.20%
Grocery Food (AOC)	23.50%
Frozen (AOC)	26.80%

The data presented in Tables 6 and 7 is vastly different than the savings estimated in the DeCA price comparison, which showed that in CONUS, the greatest savings are realized on meat and produce and the least amount was saved on grocery items (Information Paper on 2013 Price Comparison Survey, 2013). Our case study illustrates that the greatest potential for savings is on dairy and meat while savings on produce are minimal. It further illustrates that there is the potential for even greater savings if the shopper is willing to substitute the Great Value Brand for the name brand.

With the exception of dairy products, Tables 6 and 8 present a far different story when utilizing Walmart Supercenters exclusively versus the AOC database. The greatest disparity again is seen in produce items as our savings was only 4.15% while the DeCA study found the savings to be 47.80%. Additionally, our study determined the savings on

meats; grocery food and frozen food were substantially lower. Taking a look back, Table 5 illustrates that only two of sixteen meat items, two of fifteen produce items, three of nine dairy items, twenty seven of seventy nine grocery items, and zero of three frozen items exceed the published commissary percentage saved. Therefore the actual savings only exceeds the published savings on thirty four out of the one hundred and twenty two items which equates to only 27.87% of the items. While it cannot be argued that the commissary does offer eligible patrons savings, given the data presented in Chapter IV along with the data presented in this chapter, Walmart Supercenters appear to be at least one viable alternative.

D. SUMMARY

This chapter has provided a comparison between our case study price comparison and the 2013 DeCA price comparison, where the follow up request for underlying information was denied. It also answers the two research questions; what is the price difference if a patron purchases the exact items at a commissary and a Walmart Supercenter and can the price difference be further reduced or eliminated by purchasing generic alternatives? While we were unable to replicate the DeCA price comparison item for item due to the unavailability of underlying data, our study seems to present a different picture. Although the potential for savings exists at the commissary the availability presented in Chapter IV must also be taken into account. The rise of commercial supermarkets, with their own brands, offers the military shopper a suitable alternative with the potential for even greater savings.

VI. SUMMARY

A. OVERVIEW

We began this thesis by recounting the history of the commissary, establishing how the DOD was introduced into the grocery business. Commissaries were first established to provide a basic need to patrons in remote areas. The number of patrons has grown exponentially over the years and so has the number of commissaries. Today, the idea of supporting remote locations is no longer a main focus. DeCA's primary focus is for commissaries to benefit or supplement the military pay system by providing groceries at cost to patrons. Despite the many commissioned studies that questioned the need for the DOD to stay in the grocery business, DeCA has endured to be an organization that many believe to provide a vital benefit to service members.

However, we have found that most service members have more ready access to Walmart Supercenters, a plausible discount grocery alternative, than to commissaries. To make this determination, we conducted a detailed location study that analyzed the distances of commissaries and Walmart Supercenters from military bases and major metropolitan areas. The data supported that Walmart Supercenters are more accessible to eligible commissary patrons than commissaries. Walmart Supercenters significantly outnumber commissaries and also offer competitive pricing on name brand products, as well as low-price generic products. This study shows that suitable alternatives to the commissaries are available now more than ever. These alternatives like Walmart Supercenters have competitive pricing and provide more convenient locations for all patrons within CONUS. Commissaries currently require $1.4 billion in annual funding to support their operations and have consistently come under Congressional scrutiny as the DOD downsizes. The benefit of the commissary is only valuable to the patrons that have access to commissaries and are not constrained by distance. Many patrons who do not live near a commissary must seek alternative sources to purchase groceries.

B. CONCLUSION

On September 22, 2011, chairman of the Joint Chief of Staff, Admiral Mullen, said, “I’ve said many times that I believe the single, biggest threat to our national security is our debt, so I also believe we have every responsibility to help eliminate that threat. We must, and will, do our part” (Marshall, 2011). In order to reduce national debt, leaders face the challenge of increasing revenues while decreasing expenditures. Congress is compelled to reexamine each expenditure in the discretionary budget and determine which expenses are necessary and which should be removed from the budget.

If commissary privileges were truly a supplement to the pay and benefits of military personnel, then every military member should have reasonable access to the nearest commissary. DeCA’s mission is to “deliver a vital benefit of the military pay system that sells grocery items at cost while enhancing quality of life and readiness” (DeCA, 2014, p. 8). Unfortunately, the bases in CONUS that DeCA aims to serve are on average 31.09 miles away from the nearest commissary. If many service members are not provided reasonable access to what DeCA identifies as a “vital benefit of the military pay system” (p. 8), then the commissary only benefits a select number of patrons that are lucky enough to be stationed at a base that is a reasonable commute from the nearest commissary. Those that cannot take advantage of their commissary privileges do not benefit from the $1.4 billion appropriated every year to support the commissary (Defense Commissary Agency, 2013).

There is no doubt that Walmart Supercenters are a suitable alternative for the average American consumer purchasing grocery products. The grocery business has undergone a dramatic change since Walmart Supercenters began opening multiple branches throughout CONUS. Our country has never before witnessed a time where a single grocery chain dominated the entire supermarket industry (Lepore, 2014). In order to compete with Walmart’s low discount prices and convenient locations, competitors are forced to survive in a business environment where there is a diminishing market share and a transition away from the traditional supermarket. The military consumer is not immune from these trends and most likely considers Walmart Supercenters an alternative to shopping at the commissary, especially in areas where commissaries are not

conveniently located. Since suitable alternatives exist that provide low-cost groceries in most places throughout CONUS, keeping commissaries open may not be necessary.

Additionally, the number of commissaries operating in CONUS is dependent on the size of the force, which rises during a war and reduces during peace time. The Military Personnel appropriation will always fluctuate, depending on the number of service members are needed to fulfill DOD's strategic commitments. Yesterday, the wars in Iraq and Afghanistan required an extraordinary build-up of forces. Today, the DOD is rolling back the number of troops on the ground and downsizing the force to a mere fraction of what it used to be. Supporting organizations like DeCA have difficulty downsizing in lockstep with the military branches it are tasked to support. Creating more jobs and expanding infrastructure is often an easier prospect than dismissing employees and closing down stores. The DOD should stick to what it does best: fighting wars and defending our nation. Selling groceries should be left to those organizations that have proven to be the most competitive in the free market.

Walmart Supercenter is a valid alternative to the commissary because of their ability to almost match commissary prices with the Great Value Brand and ease of access due to the number of stores across CONUS. DeCA provides the lowest cost product to customers, but accessibility does not allow for all eligible patrons to utilize the benefit of shopping at a commissary.

C. RECOMMENDATIONS

The current fiscal environment calls for tough decisions to be made on all government funded programs and the commissary system is no exception. As discussed throughout this thesis, commissary appropriated funding levels have exceeded $1 billion and warrant continued scrutiny. As our study has illustrated there is the potential for the government to save a substantial portion of the appropriated funding. Our recommendations take two approaches, the first is to seek no savings of tax dollars, but to pass the benefit to the eligible member as a subsidy and the second is to cut the benefit approach by closing select commissaries. The three recommendations are below with first as a no savings approach and the second and third as benefit cutting approach.

Our first recommendation is to task DOD's Cost Assessment and Program Evaluation (CAPE) office with a cost benefit analysis that would address passing the benefit directly to all eligible members in a monthly subsidy. Commissaries benefit the members that have access only, how do we benefit those without accessibility. Starting with simple math, take the total annual dollar amount of operating costs and appropriations for DeCA and divide it by the total number of eligible patrons to commissaries and get a rough idea of the total annual benefit that could be passed tax free to eligible patrons.

$$\frac{Total\ annual\ dollar\ amount\ of\ operating\ costs\ and\ appropriations\ for\ DeCA}{Total\ number\ of\ eligible\ commissary\ patrons} = Subsidy\ per\ patron$$

Eligible patrons to include those out of commissary accessibility ranges would have the freedom to apply their benefit to grocery stores and grocery products of their choice. Let the eligible member have the freedom of choice on where to apply the benefit. If members choose to utilize the subsidy with Great Value Brands and the local Walmart Super Center, what would the new savings be compared to keeping the commissaries? Does a direct subsidy of the benefit allow eligible patrons to save more than the DeCA advertised 30 percent? If yes, close the commissaries and redirect the funds to eligible patrons in the form of a subsidy. CAPE is the appropriate office to run this cost benefit analysis and expand the study if necessary.

The second recommendation is to begin closing commissaries within the same geographic area, because the expectation of implementing the first recommendation will be time consuming. Chapters III and IV illustrate the numerous geographic areas that have multiple commissaries. They also illustrate the number of Walmart Supercenters available in these same geographic areas. As previously discussed, Walmart operates to make a profit and the commissary operates to provide a service. Therefore, geographic areas should be limited to one commissary. While this has the potential to inconvenience a portion of the military members living in these geographic areas, those members have the ability to shop at a Walmart Supercenter should they decide they do not want to shop at the commissary selected to remain open.

Our final recommendation is to cut appropriations through a two-step process. The first step involves determining which CONUS-based commissaries are earning a profit and then closing commissaries in the same geographic area as discussed above. The second step involves closing or selling off any commissaries turning a loss, resulting in savings to taxpayers of over $1 billion.

D. AREAS FOR FURTHER RESEARCH

We realize that closing commissaries in the same geographic area and cutting appropriations have the potential to drastically affect current commissary shoppers. Therefore, prior to taking these actions, further research should be conducted including expanding the price study, determining the value of current infrastructure, looking at the financial statements of individual commissaries, and determining the value of the commissary to current beneficiaries. CAPE is an excellent resource to carry out these studies.

The first area suitable for further research is expanding the price study. Due to a lack of available data through the Freedom of Information Act, we were unable to expand the price study any further than our current geographic area. Further expanding can be accomplished in two ways. First, it can be expanded nationwide utilizing the same concept we used, where like items and Great Value brand items are compared at commissaries and local Walmart Supercenters. A second way to expand this would be to compare prices at commissaries and local supermarkets to determine the actual savings in different geographic regions. Finally, this information could be made available to commissary shoppers so they could be able to make an informed decision on where to shop.

The second area suitable for further research is determining the value of current infrastructure and whether it would be possible to sell it to a local supermarket or Walmart. By placing a value on the infrastructure, the government would be able to better determine which commissaries should remain open and which ones should be closed. With the infrastructure and customer base in place, the government may find that

someone is willing to take over the operations, thereby reducing commissary appropriations.

The next area suitable for further research goes hand in hand with the second area by looking at the financial statements of individual commissaries. By looking at the profits and losses of each of the 183 CONUS-based commissaries, a more informed decision could be made on which if any of the commissaries should remain open. It would also give Congress a better idea on the possibility of reducing commissary appropriated funding while still being able to provide the commissary benefit that is highly regarded by the military population.

Finally, determining the value of the commissary to current beneficiaries would be suitable for further research. By conducting a survey, a researcher would be able to determine the value the beneficiaries place on their commissary benefits. This would be useful going ahead in determining whether the possible elimination of the benefit is a fight worth fighting.

APPENDIX A. DISTANCE OF WALMART SUPERCENTERS AND COMMISSARIES TO METROPOLITAN AREAS

United States Metropolitan statistical area	Popltn. 4/1/2010	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
New York-Newark-Jersey City, NY-NJ-PA	19,567,410	-73.917927	40.704234	8.9	8.56	6	14	54	2	4	6
Los Angeles-Long Beach-Anaheim, CA	12,828,837	-118.375984	34.086159	10.55	11.98	10	29	49	1	2	7
Chicago-Naperville-Elgin, IL-IN-WI	9,461,105	-87.679365	41.840675	5.82	33.89	22	53	105	0	1	1
Dallas-Fort Worth-Arlington, TX	6,426,214	-96.787166	32.799528	4.84	127.14	45	81	115	0	0	0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,965,343	-75.144793	39.998012	2.81	28.66	15	35	87	0	2	9
Houston-The Woodlands-Sugar Land, TX	5,920,416	-95.383173	29.762895	1.26	156.73	41	60	77	0	0	0
Washington-Arlington-Alexandria, DC-VA-MD-WV	5,636,232	-77.013222	38.913611	0.91	4.49	11	30	84	6	10	14
Miami-Fort Lauderdale-West Palm Beach, FL	5,564,635	-80.224145	25.787676	6.93	168.85	13	26	37	0	0	0
Atlanta-Sandy Springs-Roswell, GA	5,286,728	-84.403176	33.759506	0.79	59.95	40	67	119	0	0	2

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Boston-Cambridge-Newton MA-NH	4,552,402	-71.089115	42.321597	14.11	14.11	4	26	47	1	1	4
San Francisco-Oakland-Hayward, CA	4,335,391	-122.437392	37.759881	30.94	31.68	0	6	25	0	2	4
Detroit-Warren-Dearborn, MI	4,296,250	-83.102641	42.387137	6.62	21.45	17	26	68	1	1	1
Riverside-San Bernardino-Ontario, CA	4,224,851	-117.396127	33.948065	6.32	9.23	8	32	53	1	3	12
Phoenix-Mesa-Scottsdale, AZ	4,192,887	-112.0763	33.52837	1.04	16.2	39	47	54	1	1	1
Seattle-Tacoma-Bellevue, WA	3,439,809	-122.333144	47.626353	8.27	17.72	5	18	23	2	6	6
Minneapolis-St. Paul-Bloomington, MN-WI	3,348,859	-93.268198	44.964465	5.58	143.51	18	29	50	0	0	0
San Diego-Carlsbad, CA	3,095,313	-117.146344	32.779541	5.58	5.9	6	11	42	4	6	8
St. Louis, MO-IL	2,787,701	-90.242806	38.627718	4.89	21.24	19	34	69	1	1	1
Tampa-St. Petersburg-Clearwater, FL	2,783,243	-82.46464	27.970898	2.62	7.78	21	42	89	1	1	1
Baltimore-Columbia-Towson, MD	2,710,489	-76.617016	39.307956	4.98	15.52	10	28	96	2	9	15
Denver-Aurora-Lakewood, CO/1	2,543,482	-104.965486	39.726287	4.5	9.78	28	35	54	1	1	5
Pittsburgh, PA	2,356,285	-79.977292	40.441419	7.04	10.04	12	28	76	1	1	1

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Portland-Vancouver-Hillsboro, OR-WA	2,226,009	-122.640155	45.52304	3.68	108.5	7	13	17	0	0	0
Charlotte-Concord-Gastonia, NC-SC	2,217,012	-80.829224	35.207193	3.85	82.97	22	36	110	0	0	2
Sacramento--Roseville--Arden-Arcade, CA	2,149,127	-121.468926	38.555605	4.34	8.89	13	21	31	1	3	4
San Antonio-New Braunfels, TX	2,142,508	-98.512682	29.451532	2.95	3.96	19	26	52	3	3	3
Orlando-Kissimmee-Sanford, FL	2,134,411	-81.375789	28.533513	3.65	51.9	18	40	93	0	0	2
Cincinnati, OH-KY-IN	2,114,580	-84.503088	39.13616	5.26	53.15	17	32	117	0	0	2
Cleveland-Elyria, OH	2,077,240	-81.669718	41.482301	1.79	97.38	14	28	71	0	0	1
Kansas City, MO-KS	2,009,342	-94.555406	39.076304	6.49	16.38	21	32	52	1	2	3
Las Vegas-Henderson-Paradise, NV	1,951,269	-115.22206	36.194168	1.75	10.05	15	16	19	1	1	1
Columbus, OH	1,901,974	-82.99146	39.989783	5.44	56.59	13	25	96	0	0	1
Indianapolis-Carmel-Anderson, IN	1,887,877	-86.147685	39.790942	6.19	8.73	17	32	78	1	1	2
San Jose-Sunnyvale-Santa Clara, CA	1,836,911	-121.872734	37.304051	1.95	12.62	3	9	23	1	2	5
Austin-Round Rock, TX	1,716,289	-97.747247	30.300474	3.9	57.37	16	23	62	0	0	5

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Virginia Beach-Norfolk-Newport News, VA-NC	1,676,822	-76.087179	36.834498	1.19	5.58	13	19	39	5	6	7
Nashville-Davidson--Murfreesboro--Franklin, TN	1,670,890	-86.762141	36.154838	3.01	51.1	15	29	65	0	0	3
Providence-Warwick, RI-MA	1,600,852	-71.422132	41.82355	4.73	21.75	13	26	43	1	3	4
Milwaukee-Waukesha-West Allis, WI	1,555,908	-87.95591	43.052162	2.26	51.2	15	32	103	0	0	1
Jacksonville, FL	1,345,596	-81.659999	30.319406	3.18	7.87	15	20	41	2	3	3
Memphis, TN-MS-AR	1,324,829	-89.971068	35.117365	9.11	15.57	10	18	50	1	1	1
Oklahoma City, OK	1,252,987	-97.534994	35.482309	2.99	8.31	16	24	45	1	1	3
Louisville/Jefferson County, KY-IN	1,235,708	-85.749534	38.22887	4.91	26.05	13	23	79	0	1	2
Hartford-West Hartford-East Hartford, CT	1,212,381	-72.688587	41.76255	20.86	40.15	2	11	53	0	1	6
Richmond, VA	1,208,101	-77.461507	37.538346	3.9	21.14	13	17	74	1	1	13
New Orleans-Metairie, LA	1,189,866	-90.059011	29.972754	3.31	2.44	9	22	50	1	1	3
Buffalo-Cheektowaga-Niagara Falls, NY	1,135,509	-78.849405	42.904657	5.64	173.01	6	10	32	0	0	0
Raleigh, NC	1,130,490	-78.64459	35.818835	2.39	49.98	19	37	83	0	1	3
Birmingham-Hoover, AL	1,128,047	-86.81274	33.524755	5.33	81.39	16	27	60	0	0	4

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Salt Lake City, UT	1,087,873	-111.892622	40.7547	1.3	26.93	20	29	35	0	1	2
Rochester, NY	1,079,671	-77.611504	43.165496	2.11	109.92	7	14	38	0	0	0
Grand Rapids-Wyoming, MI	988,938	-85.65828	42.960476	5.53	121.3	3	13	47	0	0	0
Tucson, AZ	980,263	-110.918192	32.214476	0.56	5.29	8	9	31	1	1	2
Tulsa, OK	937,478	-95.937332	36.131294	3.56	94.79	14	22	58	0	0	1
Fresno, CA	930,450	-119.792113	36.781549	4.64	35.97	6	8	13	0	1	2
Worcester, MA-CT	916,980	-71.803774	42.268843	2.55	29.56	11	28	50	0	1	4
Bridgeport-Stamford-Norwalk, CT	916,829	-73.195915	41.188596	18.97	39.26	2	3	38	0	2	7
Albuquerque, NM	887,077	-106.609991	35.110703	0.19	4.59	11	13	17	1	1	1
Albany-Schenectady-Troy, NY	870,716	-73.781339	42.659829	3.59	15.86	5	16	39	1	1	2
Omaha-Council Bluffs, NE-IA	865,350	-96.01299	41.260482	1.23	10.85	11	17	33	1	1	1
New Haven-Milford, CT	862,477	-72.92315	41.311147	2.51	43.53	3	5	43	0	1	6
Bakersfield, CA	839,631	-119.031661	35.357276	4.08	70.19	3	4	18	0	0	5
Knoxville, TN	837,571	-83.942161	35.972882	5.24	97.36	12	21	67	0	0	1

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Greenville-Anderson-Mauldin, SC	824,112	-82.385428	34.844313	4.09	93.95	11	24	96	0	0	2
Oxnard-Thousand Oaks-Ventura, CA	823,318	-118.875053	34.189489	16.47	19.1	5	9	40	1	2	5
Allentown-Bethlehem-Easton, PA-NJ	821,173	-75.375673	40.626198	6.18	39.62	9	32	88	0	2	9
El Paso, TX	804,123	-106.423242	31.790208	2.44	2.03	9	10	12	1	2	3
Baton Rouge, LA	802,484	-91.140229	30.45809	2.62	75.15	15	21	61	0	0	1
Dayton, OH	799,232	-84.196665	39.762708	3.79	9.56	14	40	101	1	1	2
McAllen-Edinburg-Mission, TX	774,769	-98.236385	26.216263	1.83	91.9	9	14	18	0	0	1
Columbia, SC	767,598	-81.010759	34.017105	3.34	4.52	11	18	83	1	2	4
Greensboro-High Point, NC	723,801	-79.819416	36.079868	4.13	78.04	12	29	114	0	0	2
Akron, OH	703,200	-81.5179	41.073155	5.77	85.17	15	34	74	0	0	1
North Port-Sarasota-Bradenton, FL	702,281	-82.172024	27.066004	3.44	58.38	9	22	68	0	0	1
Little Rock-North Little Rock-Conway, AR	699,757	-92.331122	34.736009	3.93	15.33	12	22	36	1	1	1
Stockton-Lodi, CA	685,306	-121.300868	37.975623	3.57	40.59	3	17	36	0	2	5
Charleston-North Charleston, SC	664,607	-79.986255	32.789295	4.83	8.71	9	11	33	2	2	6

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Syracuse, NY	662,577	-76.144423	43.046899	6.53	71.25	6	16	39	0	0	1
Colorado Springs, CO	645,613	-104.791914	38.863443	2.28	5.47	9	18	44	3	3	4
Winston-Salem, NC	640,595	-80.260491	36.102764	4.93	95.51	10	27	115	0	0	2
Wichita, KS	630,919	-97.336226	37.688848	2.84	6.38	11	16	25	1	1	3
Springfield, MA	621,570	-72.547455	42.112411	2.67	54.81	3	17	55	0	0	5
Cape Coral-Fort Myers, FL	618,754	-81.982471	26.6396	3.07	89.85	6	17	47	0	0	1
Boise City, ID	616,561	-116.237651	43.613739	2.83	43.04	7	9	9	0	1	1
Toledo, OH	610,001	-83.575337	41.665682	4.31	75.91	7	26	89	0	0	1
Madison, WI	605,435	-89.394757	43.074613	3.04	91.26	2	15	82	0	0	2
Lakeland-Winter Haven, FL	602,095	-81.958978	28.041248	2.79	35.02	12	54	104	0	1	2
Ogden-Clearfield, UT	597,159	-111.961193	41.227744	0.97	7.17	8	24	31	1	1	2
Deltona-Daytona Beach-Ormond Beach, FL	590,289	-81.216345	28.907032	3.73	60.45	13	33	99	0	0	3
Des Moines-West Des Moines, IA	569,633	-93.620866	41.590939	3.92	124.01	7	15	28	0	0	0
Jackson, MS	567,122	-90.204415	32.320445	4.32	94.49	8	12	33	0	0	1
Youngstown-Warren-Boardman, OH-PA	565,773	-80.814554	41.238206	3.27	67.4	7	31	83	0	0	1

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Augusta-Richmond County, GA-SC	564,873	-82.022048	33.433271	2.47	6.89	9	12	54	1	1	3
Scranton--Wilkes-Barre--Hazleton, PA	563,631	-75.667411	41.410629	1.53	19.03	7	12	69	1	1	3
Harrisburg-Carlisle, PA	549,475	-76.875613	40.269789	5.41	16.41	8	23	99	1	1	10
Palm Bay-Melbourne-Titusville, FL	543,376	-80.658798	27.98298	1.48	16.45	5	13	66	1	1	1
Chattanooga, TN-GA	528,143	-85.267255	35.045473	4.33	50.96	13	21	105	0	0	3
Spokane-Spokane Valley, WA	527,753	-117.410271	47.673341	2.4	11.39	7	8	14	1	1	1
Provo-Orem, UT	526,810	-111.660804	40.244421	3.28	57.29	10	23	33	0	0	2
Lancaster, PA	519,445	-76.304366	40.03986	3.38	40.04	9	34	100	0	2	12
Modesto, CA	514,453	-120.994543	37.661479	2.16	66.72	3	6	32	0	0	4
Portland-South Portland, ME	514,098	-70.269086	43.665116	4.73	46.69	4	9	29	0	1	2
Durham-Chapel Hill, NC	504,357	-78.907167	35.988644	2.82	58.16	16	33	86	0	0	3
Santa Rosa, CA	483,878	-122.704646	38.448611	24.82	42.98	1	5	25	0	1	4
Lexington-Fayette, KY	472,099	-84.494642	38.029632	2.93	79.97	10	18	73	0	0	1
Lafayette, LA	466,750	-92.029363	30.213901	1.89	90.92	9	14	50	0	0	1

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Lansing-East Lansing, MI	464,036	-84.554916	42.717585	6.21	89.19	4	17	78	0	0	1
Fayetteville-Springdale-Rogers, AR-MO	463,204	-94.160912	36.076379	2.86	139.47	7	17	62	0	0	0
Pensacola-Ferry Pass-Brent, FL	448,991	-87.209277	30.436988	4.09	5.91	8	18	37	2	4	4
Visalia-Porterville, CA	442,179	-119.307347	36.3241	15.94	34.25	2	8	14	0	1	1
Shreveport-Bossier City, LA	439,811	-93.771115	32.468003	4.02	5.48	5	10	42	1	1	1
Springfield, MO	436,712	-93.286213	37.195098	2.92	75.39	8	16	51	0	0	1
York-Hanover, PA	434,972	-76.728043	39.962692	2.38	29.06	8	30	95	0	2	11
Corpus Christi, TX	428,185	-97.401927	27.742857	1.76	8.8	7	10	16	1	2	2
Flint, MI	425,790	-83.693996	43.027577	4.08	53.46	7	28	61	0	0	1
Reno, NV	425,417	-119.821812	39.52711	2.12	59.28	7	10	18	0	0	3
Asheville, NC	424,858	-82.55581	35.579862	2.25	107.79	5	18	101	0	0	0
Port St. Lucie, FL	424,107	-80.355029	27.275772	3.19	66.53	5	14	57	0	0	1
Santa Maria-Santa Barbara, CA	423,895	-120.433373	34.951377	79.74	15.24	0	0	6	1	1	4
Huntsville, AL	417,593	-86.596296	34.712341	3.6	2.3	7	11	73	1	1	2
Fort Wayne, IN	416,257	-85.126546	41.078348	3.55	96.19	10	21	88	0	0	1

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Salinas, CA	415,057	-121.643128	36.683859	2.05	9.78	4	7	14	1	1	4
Vallejo-Fairfield, CA	413,344	-122.235882	38.112969	5	19.16	4	8	29	1	2	4
Mobile, AL	412,992	-88.10328	30.679523	1.25	51.73	9	16	34	0	0	6
Reading, PA	411,442	-75.926301	40.341692	5.18	60.99	11	34	94	0	0	9
Brownsville-Harlingen, TX	406,220	-97.484424	25.930307	0.65	109.81	6	10	17	0	0	0
Killeen-Temple, TX	405,300	-97.726586	31.105591	1.02	1.92	6	9	53	2	2	2
Canton-Massillon, OH	404,422	-81.375792	40.804958	2.51	69.88	8	31	88	0	0	1
Beaumont-Port Arthur, TX	403,190	-94.126653	30.079912	3.85	85.95	6	8	75	0	0	1
Manchester-Nashua, NH	400,721	-71.45156	42.986284	3.87	36.86	6	16	50	0	2	2
Salem, OR	390,738	-123.029159	44.931109	2.11	150.58	4	8	19	0	0	0
Davenport-Moline-Rock Island, IA-IL	379,690	-90.590745	41.542982	2	3.06	5	9	45	1	1	1
Peoria, IL	379,186	-89.609421	40.720737	0.57	73.4	6	13	52	0	0	1
Myrtle Beach-Conway-North Myrtle Beach, SC-NC	376,722	-78.875453	33.704238	2.06	82.08	7	11	45	0	0	5
Montgomery, AL	374,536	-86.279118	32.361538	0.83	3.73	7	13	54	2	2	4
Salisbury, MD-DE	373,802	-75.593361	38.365806	2.48	45.28	5	11	46	0	1	13

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Gulfport-Biloxi-Pascagoula, MS	370,702	-89.076169	30.401641	1.65	3.62	6	12	45	2	2	3
Tallahassee, FL	367,413	-84.27277	30.4518	3.45	72.82	7	11	29	0	0	3
Trenton, NJ	366,513	-74.756138	40.221741	6.56	15.46	7	35	84	1	4	9
Fayetteville, NC	366,383	-78.917579	35.066663	2.4	6.62	7	23	94	2	2	5
Hickory-Lenoir-Morganton, NC	365,497	-81.328372	35.737682	3.31	121.43	7	33	102	0	0	0
Huntington-Ashland, WV-KY-OH	364,908	-82.433642	38.413033	3.16	129.28	8	17	44	0	0	0
Eugene, OR	351,715	-123.110345	44.057663	3.07	211.08	3	5	13	0	0	0
Rockford, IL	349,431	-89.069754	42.26977	3.69	61.56	7	25	108	0	0	2
Savannah, GA	347,611	-81.103762	32.050706	4.58	2.24	7	10	30	1	3	6
Ann Arbor, MI	344,791	-83.739261	42.274488	5.93	52.74	12	32	74	0	0	1
Ocala, FL	331,298	-82.130613	29.187704	2.93	75.12	6	19	97	0	0	3
Kalamazoo-Portage, MI	326,589	-85.583902	42.279207	5.22	117.15	5	16	57	0	0	0
Naples-Immokalee-Marco Island, FL	321,520	-81.79851	26.152941	6.94	125.28	4	9	43	0	0	0
South Bend-Mishawaka, IN-MI	319,224	-86.255157	41.672597	3.19	94.05	8	17	80	0	0	1
Spartanburg, SC	313,268	-81.927603	34.946771	3.45	86.22	9	26	95	0	0	1
Evansville, IN-KY	311,552	-87.550566	37.977166	4.28	72.17	5	15	57	0	0	3

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Kingsport-Bristol-Bristol, TN-VA	309,544	-82.542123	36.536851	2.35	159	7	14	61	0	0	0
Roanoke, VA	308,707	-79.955711	37.276895	1.49	86.58	6	19	60	0	0	1
Green Bay, WI	306,241	-88.015787	44.513442	3.34	137.16	4	12	34	0	0	0
Lincoln, NE	302,157	-96.675345	40.809868	3.39	44.74	5	18	40	0	1	1
Fort Collins, CO	299,630	-105.078302	40.559238	2.2	42.21	7	18	41	0	1	2
Utica-Rome, NY	299,397	-75.231887	43.096569	1.94	65.77	5	12	38	0	0	2
Columbus, GA-AL	294,865	-84.940422	32.489608	2.19	8.23	4	10	67	1	1	6
Boulder, CO/1	294,567	-105.259502	40.019425	8.32	32.5	17	37	51	0	1	5
Lubbock, TX	290,805	-101.877793	33.564735	2.16	100.95	4	6	12	0	0	0
Erie, PA	280,566	-80.076213	42.114507	1.86	118.6	5	13	52	0	0	0
Fort Smith, AR-OK	280,467	-94.398737	35.368691	2.81	131.56	8	13	49	0	0	0
Duluth, MN-WI	279,771	-92.117079	46.780373	3.97	203.68	3	3	12	0	0	0
Atlantic City-Hammonton, NJ	274,549	-74.439034	39.364966	13.04	46.47	2	11	50	0	2	5
Norwich-New London, CT	274,055	-72.082088	41.539748	5.76	10.01	4	23	43	1	2	5
San Luis Obispo-Paso Robles-Arroyo Grande, CA	269,637	-120.663192	35.274305	86.36	36.84	0	0	5	0	1	3

United States Metropolitan statistical area	Popltn. 4/1/2010	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Gainesville, FL	264,275	-82.336097	29.665245	2.14	53.66	3	15	65	0	0	3
Santa Cruz-Watsonville, CA	262,382	-122.026252	36.97205	21.13	25.48	3	7	17	0	2	4
Clarksville, TN-KY	260,625	-87.358261	36.559383	3.31	7.82	5	19	66	1	1	1
Cedar Rapids, IA	257,940	-91.668529	41.9831	3.46	66.56	6	11	37	0	0	1
Merced, CA	255,793	-120.477916	37.305977	7.54	78.02	1	4	23	0	0	4
Wilmington, NC	254,884	-77.912122	34.223232	2.54	43.5	4	9	39	0	2	6
Kennewick-Richland, WA	253,340	-119.15927	46.203475	1.61	122.25	4	8	13	0	0	0
Greeley, CO/1	252,825	-104.723988	40.415119	1.49	47.72	8	23	42	0	1	3
Waco, TX	252,772	-97.15593	31.551516	2.11	44.08	3	10	89	0	2	2
Lynchburg, VA	252,634	-79.170205	37.403672	2.38	73.44	6	10	58	0	0	1
Olympia-Tumwater, WA	252,264	-122.893077	47.042418	3.53	14.18	7	14	27	2	4	6
Amarillo, TX	251,933	-101.845163	35.199252	2.28	101.48	5	7	10	0	0	0
Binghamton, NY	251,725	-75.911797	42.102225	2.08	67.07	2	9	46	0	0	1
Hagerstown-Martinsburg, MD-WV	251,599	-77.967814	39.459207	1.16	29.32	6	16	80	0	1	12

United States Metropolitan statistical area	Popltn. 4/1/2010	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Bremerton-Silverdale, WA	251,133	-122.652625	47.570017	3.81	8.68	4	20	23	2	6	6
Laredo, TX	250,304	-99.490593	27.524445	2.5	102.75	3	3	5	0	0	0
Yakima, WA	243,231	-120.529657	46.596728	2.38	99.62	2	3	19	0	0	1
Crestview-Fort Walton Beach-Destin, FL	235,865	-86.57265	30.754211	1.87	20.3	4	15	41	2	4	6
Topeka, KS	233,870	-95.689508	39.0392	2.84	46.13	5	13	43	0	1	3
Macon, GA	232,293	-83.651672	32.834839	3.08	17.07	7	13	91	1	1	3
Champaign-Urbana, IL	231,891	-88.261227	40.112981	2.37	111.17	4	12	52	0	0	0
Tuscaloosa, AL	230,162	-87.534607	33.20654	2.96	60.22	2	13	56	0	0	4
College Station-Bryan, TX	228,660	-96.314464	30.601433	0.89	91.18	3	7	92	0	0	2
Sioux Falls, SD	228,261	-96.73178	43.536285	2.42	171.84	2	3	18	0	0	0
Charleston, WV	227,078	-81.633294	38.349497	48.87	121.88	4	16	45	0	0	0
Appleton, WI	225,666	-88.401655	44.265536	2.99	115.12	7	14	34	0	0	0
Chico, CA	220,000	-121.83546	39.739983	25.24	48.97	0	3	19	0	1	2
Charlottesville, VA	218,705	-78.486474	38.034506	4.43	57.12	4	10	65	0	0	7
Barnstable Town, MA	215,888	-70.353059	41.659158	27.71	51.13	0	7	29	0	0	4
Longview, TX	214,369	-94.753909	32.509147	2.39	62.65	6	15	46	0	0	1

United States Metropolitan statistical area	Popltn. 4/1/2010	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Burlington-South Burlington, VT	211,261	-73.223157	44.484748	19.31	120.26	1	2	12	0	0	0
						5			132		
			Average	5.55	55.79	8.79	18.93	54.04	0.48	0.97	2.90
			Stndrd Dev	9.66	45.03	6.87	11.99	28.29	0.87	1.50	2.98
			Min	0.19	1.92	0.00	0.00	5.00	0.00	0.00	0.00
			Max	86.36	211.08	45.00	81.00	119.00	6.00	10.00	15.00

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APPENDIX B. DISTANCE OF WALMART SUPERCENTERS AND COMMISSARIES TO MILITARY BASES

Base	Address	St	Zip	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Anniston Army Depot (E)	7 Frankford Ave	AL	36201	-85.969486	33.626727	8.08	82.9	3	23	113	0	0	3
Birmingham ANGB (E;F;M)	5401 East Lake Blvd	AL	35217	-86.752710	33.576660	3	77.46	17	26	76	0	0	3
Fort McClellan ANGB (E)	228 Signal St	AL	36205	-85.778640	33.723467	2.36	82.95	3	23	113	0	0	3
Fort Rucker (E;C;F;H)	Andrews Ave	AL	36362	-85.707778	31.343611	7.32	0.52	4	9	44	1	1	9
Gunter Annex to Maxwell AFB (E;C;F)	50 South Lemay Plaza	AL	36112	-86.351460	32.384875	4.89	0.76	7	13	55	2	2	4
Marshall Space Flight Center; (M)	1 Tranquility Base	AL	35805	-86.654423	34.712425	2.62	1.69	9	18	88	1	1	2
Maxwell AFB (E;C;F;H)	55 Lemay Plaza South	AL	36112	-86.247605	32.406685	2.81	0.19	7	14	57	2	2	4
Redstone Arsenal (E;C;F;H)	Redeye Rd	AL	35898	-86.654167	34.684167	4.43	1.52	9	18	88	1	1	2
USCG Aviation Training Center Mobile (E;C;F;M)	8501 Tanner Williams Rd	AL	36608	-88.241630	30.696291	1.59	44.72	8	16	43	0	1	5
USCG Sector Mobile (E;C;M)	15th St/South Broadway	AL	36615	-88.043054	30.694357	5.18	48.62	9	18	43	0	2	6
Fort Chaffee (E;)	1370 Fort Smith Blvd	AR	72905	-94.288055	35.305755	4.04	124.55	7	13	44	0	0	0
Little Rock AFB (E;C;F;H)	840 Leadership Dr	AR	72099	-92.125360	34.890302	0.91	1.36	13	21	39	1	1	1

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Pine Bluff Arsenal (E;)	10020 Kambrich Circle	AR	71602	-92.085745	34.305712	10.16	41.15	2	19	41	0	1	1
Camp Navajo	1 Hughes Ave	AZ	86015	-111.841944	35.193611	12.76	117.72	1	3	9	0	0	0
Davis-Monthan AFB (E;C;F;H)	3500 S Craycroft Rd	AZ	85707	-110.875531	32.190721	3.35	2.58	8	9	30	1	1	2
Fort Huachuca (E;C;F;H)	Hwy 90	AZ	85613	-110.349722	31.555278	5.38	0.8	1	6	13	1	1	1
Luke AFB (E;C;F;H)	7224 North 139th Ave	AZ	85309	-112.359002	33.539526	5.02	0.12	24	43	52	1	1	1
MCAS Yuma (E;C;F;M)	Third St	AZ	85369	-114.581711	32.656268	1.71	3.33	3	4	8	2	2	3
Yuma Proving Ground (E;C;F;M)	301 C St	AZ	85365	-114.396628	32.837148	12.78	16.68	3	4	8	2	2	3
B.T.Collins Army Reserve Center (E;)	8300 Santa Cruz St	CA	85828	-121.396699	38.514349	2.18	10.65	13	22	33	1	3	4
Barstow Marine Corps Logistics Base (E;C;F;M)	Junction I-15 and I-40	CA	92311	-116.964486	34.877994	35.97	1.44	0	2	42	1	2	6
Beale AFB (E;C;F;H)	17601 25th St	CA	95903	-121.425600	39.082010	8.62	3.03	5	15	33	1	2	3
Camp Pendleton MCB (E;C;F;H)	Camp Pendleton	CA	92055	-117.387371	33.214799	3.26	12.08	6	20	48	2	6	8
Camp Roberts (E;)	US 101	CA	93451	-120.743135	35.798472	70.01	31.21	0	0	4	0	1	3
Camp San Luis Obispo (E;)	San Joaquin Ave	CA	93403	-120.744401	35.324876	89.15	41.13	0	0	4	0	1	3
Channel Islands ANG Station	100 Mulcahey Dr	CA	93041	-119.110400	34.144880	4.39	5.8	2	6	34	1	2	4

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China Lake Naval Weapons Station (E;C;F;M)	1 Administration Circle	CA	93555	-117.668290	35.651614	70.42	4.34	0	0	12	1	1	4
Coronado Naval Amphib Base (E;F;M)	McCain Blvd	CA	92135	-117.160649	32.675470	3.63	2.18	6	10	40	4	6	8
Edwards AFB (E;C;F;H)	312 West Fitzgerald Blvd	CA	93524	-117.920000	34.912430	18.28	0.55	4	8	44	1	2	7
Fort Hunter Liggett (E;C;F;M)	Fort Hunter Liggett	CA	93928	-121.230649	35.952226	57.38	3.8	0	0	9	1	1	4
Fort Irwin (E;C;F;H)	Innerloop Rd	CA	92310	-116.594962	35.349261	68.58	8.12	0	0	19	1	2	5
Fort MacArthur (E;F)	2400 south pacific Ave	CA	90731	-118.288016	33.722863	10.57	13.83	10	24	49	1	1	9
Imperial Beach Auxilliary Air Field (E;C;F;M)	1498 13th St	CA	91932	-117.105572	32.569048	1.52	0.01	5	10	31	4	4	8
Los Alamitos JFTB (E;)	11206 Lexington Dr	CA	90720	-118.059795	33.790846	3.21	20.07	14	26	53	1	4	11
Los Angeles AFB (E;C;H)	483 N Aviation Blvd	CA	90245	-118.378800	33.920450	14.08	0.8	8	28	46	1	1	6
March AFB (E;C)	1261 Graeber St	CA	92518	-117.252000	33.902730	3.22	0.39	9	36	53	1	3	12
Marines' Memorial Club & Hotel	609 Sutter St	CA	94102	-122.410532	37.788749	28.68	32.11	0	6	29	0	2	4
MCAS Miramar (E;C;F;M)	2258 Mitscher Way	CA	92145	-117.131050	32.892090	11.34	1.73	9	11	46	4	6	9
MCRD San Diego (E;F;M)	1600 Henderson Ave	CA	92140	-117.193770	32.743500	7.32	3.2	6	10	41	4	6	8

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Moffett Airfield/NASA Ames Research Ctr (E;C)	Building 12 North Akron Rd	CA	94035	-122.059070	37.411116	12.31	0.62	2	4	28	1	1	3
Monterey Naval Postgraduate School; (E;C;F)	1 University Circle	CA	93943	-121.874758	36.598101	7.77	4.75	3	6	11	1	1	3
Mountain Warfare TC	MWTC	CA	93517	-119.518791	38.355450	40.78	16.09	0	1	19	0	1	2
NAF El Centro (E;C;F;M)	2nd Street NAF	CA	92243	-115.674581	32.817515	5.76	6.52	3	3	23	1	1	7
NAS Lemoore (E;C;F;M)	700 Avenger Ave	CA	93246	-119.904384	36.256179	13.57	1.19	1	7	12	1	1	2
NAS North Island (E;C;F)	McCain Blvd	CA	92135	-117.194248	32.704196	5.91	0.71	6	10	40	4	6	8
NAS Point Mugu (E;C;F;M)	521 9th St	CA	93042	-119.125316	34.121100	4.76	5.72	2	6	34	1	2	4
Parks Reserve Forces Training Center (E;)	PRFTC	CA	94568	-121.901127	37.716282	26.74	22.29	0	12	31	1	2	4
Point Loma Naval FASWTC (E;F)	32444 Echo Lane	CA	92106	-117.217539	32.726761	7.83	2.13	6	10	41	4	6	8
Port Hueneme Naval Facilities (E;f)	1000 23rd Ave	CA	93043	-119.208171	34.168601	1.77	0.04	2	6	34	1	1	4
Presidio of Monterey (E;F;M)	Presidio of Monterey	CA	93944	-121.911700	36.604000	8.8	6.23	3	6	11	1	1	2
San Diego Naval Base (E;C;F;M)	3455 Senn Rd	CA	92136	-117.125466	32.684183	1.67	0.56	5	10	37	4	4	8
San Diego Naval Hospital Balboa (E;H)	34800 Bob Wilson Dr	CA	92134	-117.145833	32.725000	4.46	2.57	6	10	40	4	6	8

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Seal Beach Naval Weapons Station (E;M)	800 Seal Beach Blvd	CA	90740	-118.088935	33.749794	5.48	19.96	16	25	52	1	4	10
Sierra Army Depot (M)	74 C St	CA	96113	-120.152620	40.266163	47.17	96.09	0	1	11	0	0	1
Submarine Base Point Loma (E;F)	140 Sylvester Rd	CA	92106	-117.240082	32.689376	8.32	2.16	5	10	40	4	5	8
Travis AFB (E;C;F;H)	351 Travis Ave	CA	94535	-121.958585	38.271964	4.27	0.57	5	16	29	1	2	3
Twentynine Palms MCAGCC (E;C;F;H)	Twentynine Palms	CA	92278	-116.053840	34.209510	19.64	1.64	1	4	23	1	1	7
USCG Air Station Sacramento (E;C;F)	5443 Dudley Blvd	CA	95652	-121.388353	38.666822	3.18	0.04	12	19	31	1	3	5
USCG Facility Novato (E;)	521 9th St	CA	94949	-122.515463	38.052431	16.83	34.36	2	5	29	0	2	3
USCG ISC San Pedro (E;M)	1001 South Seaside Ave	CA	90731	-118.268622	33.729497	9.41	13.87	12	24	49	1	1	9
USCG Mission Support Alameda (E;F)	Coast Guard Island	CA	94501	-122.249207	37.782553	27.84	27.24	0	6	22	1	4	6
USCG Sector San Diego (E;M)	2710 North Harbor Dr	CA	92101	-117.182482	32.726263	6.04	2.32	6	10	41	4	6	8
USCG Station Lake Tahoe	2500 Lake Forest Rd	CA	96145	-120.118883	39.184040	18.21	51.55	3	9	25	0	0	4
USCG Station San Francisco	Yerba Buena Island	CA	94130	-122.361792	37.810500	26.45	31.98	0	6	32	0	2	3
USCG Training Center Petaluma (E;F;M)	599 Tomales Rd	CA	94952	-122.800026	38.257256	28.25	46.33	0	4	26	0	1	3

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Vandenberg AFB (E;C;F)	706 Washington Ave	CA	93437	-120.522327	34.749687	85.87	0.87	0	0	6	1	1	3
Buckley AFB (E;C;F;M)	18401 E A-Basin St	CO	80011	-104.781740	39.725230	2.6	0.03	26	35	50	1	1	4
Fort Carson (E;C;F;H)	6351 Wetzel Ave	CO	80913	-104.804302	38.738406	3.73	0.7	9	25	48	3	4	4
Peterson AFB (E;C;F;H)	1040 East Stewart Ave	CO	80914	-104.701459	38.836492	1.73	0.78	26	35	51	1	1	4
Schriever AFB (E;F;M)	65 Hahn Ave	CO	80912	-104.525640	38.803380	10.43	9.76	8	15	45	3	3	4
United States Air Force Academy (E;C;F;H)	5126 Community Center Dr	CO	80840	-104.840489	39.024335	3.02	2.91	9	26	51	3	3	4
Bradley ANG Base (E)	100 Nicholson Rd	CT	6026	-72.704177	41.935936	11.99	48.8	3	13	56	0	1	5
Camp Rell (E;)	38 Smith St	CT	6357	-72.190254	41.328392	3.5	6.93	3	11	37	1	2	5
New London Submarine Base (E;C;F;H)	1 Crystal Lake Rd	CT	6349	-72.086996	41.387495	3.74	0.72	3	11	37	1	2	5
United States Coast Guard Academy (E;F;M)	15 Mohegan Ave	CT	6320	-72.102156	41.372654	2.73	1.57	3	11	37	1	2	5
USCG Sector Long Island Sound (E)	120 Woodward Ave	CT	6512	-72.900660	41.272524	3.32	42.97	3	5	45	0	1	6
Anacostia Naval Support Facility (E;)	1014 N Street SE	DC	20374	-76.992869	38.874732	2.04	2.51	13	33	84	6	9	14
Bolling AFB (E;C;F;M)	185 Chappie James Blvd	DC	20032	-77.008950	38.845130	5.78	0.46	13	33	84	6	9	14
Fort McNair (E;F;M)	103 3rd Ave SW	DC	20319	-77.015240	38.888166	0.87	3.07	13	33	84	6	9	14

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Marine Barracks (E;M)	8th & I St SE	DC	20390	-76.994301	38.880431	1.67	2.82	13	33	84	6	9	14
USCG Headquarters (E;M)	2100 2nd St SW	DC	20593	-77.012948	38.864464	2.49	1.44	13	33	84	6	9	14
Walter Reed Army Medical Center (E;H)	6900 Georgia Ave NW	DC	20307	-77.027001	38.977321	1.05	2.73	13	33	84	6	9	14
Washington Navy Yard (E;)	1014 N Street SE	DC	20374	-76.992183	38.874760	2.07	2.53	13	33	84	6	9	14
Dover AFB (E;C;F)	268 Galaxy St	DE	19902	-75.477231	39.123127	3.88	0.37	3	13	69	1	2	12
New Castle ANG (E;)	2600 Spruance Dr	DE	19720	-75.598718	39.691967	11.92	32.6	8	26	89	1	5	12
Camp Blanding (E;)	5629 SR 16 West	FL	32091	-81.984267	29.981300	9.63	23.33	6	20	52	1	2	3
Eglin AFB (E;C;F;H)	1511 Memorial Trail	FL	32542	-86.494283	30.489482	2.68	3.65	6	15	42	2	4	5
Homestead ARB (E;)	29050 Coral Sea Blvd	FL	33039	-80.394656	25.495574	5.58	107.4	4	17	36	0	0	0
Hurlburt AFB (E;C;F)	121 Bartley St	FL	32544	-86.701026	30.419132	3.93	0.99	7	14	42	2	4	6
Kennedy Space Center	Hwy 405	FL	32899	-80.679244	28.525913	10.08	21.79	6	27	66	1	1	1
MacDill AFB (E;C;F;H)	2306 Florida Keys Ave	FL	33621	-82.506216	27.844417	3.33	1.42	20	40	89	1	1	1
NAS Jacksonville (E;C;F;H)	Child St	FL	32212	-81.680555	30.235833	4.38	2.01	11	18	43	2	3	3
NAS Key West (E;C;F)	600 Forrestal Ave	FL	33040	-81.692810	24.584755	97.3	5.34	0	0	1	1	1	1
NAS Pensacola (E;C;F;H)	190 Radford Blvd	FL	32508	-87.277581	30.368915	1.86	2.29	9	17	37	1	4	5

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NAS Whiting Field (E;C;F)	7550 USS Essex St	FL	32570	-87.020107	30.710157	9.48	0.37	6	17	50	1	4	6
Naval Hospital Pensacola (E;H)	6000 US 98	FL	32512	-87.298382	30.398319	1.17	0.1	9	15	37	1	4	5
Naval Station Mayport (E;C;F)	Massey Ave	FL	32228	-81.423611	30.391944	6.52	2.96	12	18	36	2	3	3
Naval Support Activity (E;)	101 Vernon Ave	FL	32407	-85.759839	30.175897	2.69	12.36	5	10	34	1	1	6
Navy Exchange Orlando (E;C)	7151 Earhart Dr	FL	32827	-81.334091	28.439847	3.65	47.05	19	40	92	0	1	2
NTTC Corry Station (E;C;F)	640 Roberts Ave	FL	32511	-87.291554	30.405975	1.03	0.75	9	15	37	1	4	5
Patrick AFB (E;C;F;H)	1225 S Patrick Dr	FL	32925	-80.606438	28.213431	7.25	0.23	6	14	61	1	1	1
Saufley Field (E;)	6490 Saufley Field Rd	FL	32509	-87.336941	30.461990	3.91	4.95	9	15	37	1	4	5
Tyndall AFB (E;C;F;H)	721 Suwannee Rd	FL	32403	-85.597322	30.072747	6.12	0.36	5	10	32	1	1	6
United States Southern Command (E;C;F)	3511 NW 91st Ave	FL	33172	-80.344212	25.807034	1.55	123.41	15	24	40	0	0	0
USCG Air Station Clearwater(E;H)	15100 Rescue Way	FL	33762	-82.696602	27.911837	1.83	12.77	18	35	84	1	1	1
USCG Air Station Miami (E;C;)	14750 NW 44th Court	FL	33054	-80.275201	25.907737	2.25	131.32	18	26	43	0	0	0
USCG Ponce De Leon (E;)	2999 North Peninsula Ave	FL	32169	-80.913888	29.064516	5.92	61.38	7	21	79	0	0	3
USCG Sector St Petersburg (E;)	1301 Beach Dr SE	FL	33701	-82.630928	27.757892	3.06	11.02	20	36	81	1	1	1
USCG Station Cortez (E)	4530 124th St; Court West	FL	34215	-82.686882	27.467117	4.42	29.65	8	31	68	0	1	1

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USCG Station Fort Myers Beach (E;)	719 San Carlos Dr	FL	33931	-81.954009	26.459264	7.01	102.21	7	15	32	0	0	0
USCG Station Mayport (E;)	4200 Ocean St	FL	32233	-81.434273	30.387859	5.9	2.86	12	18	36	2	3	3
USCG Station Miami Beach (E;)	100 MacArthur Causeway	FL	33139	-80.145091	25.771152	10.89	131.21	13	25	36	0	0	0
USCG Station Panama City (E;)	1700 Thomas Dr	FL	32407	-85.757584	30.168209	2.91	11.94	5	10	34	1	1	6
USCG Station Port Canaveral (E;)	9235 Grouper Rd	FL	32920	-80.620997	28.415548	4.82	13.73	5	20	59	1	1	1
USCG Station Sand Key (E;)	1375 Gulf Blvd	FL	33767	-82.833550	27.948058	6.67	21.51	14	31	79	1	1	1
Camp Lucius D Clay	1000 Halsey Ave	GA	30060	-84.530571	33.912674	2.39	54.11	35	69	121	0	0	1
Dobbins ARB (E;)	1430 First St	GA	30069	-84.522097	33.931743	1.03	52.76	35	69	121	0	0	1
Fort Benning (E;C;F;H)	8150 Marne Rd	GA	31905	-84.953799	32.381581	9.71	0.7	4	10	58	1	1	6
Fort Gillem (E;C;F0	4598 N 3rd St	GA	30297	-84.379379	33.613117	2.83	68.92	32	76	107	0	0	3
Fort Gordon (E;C;F;H)	307 Chamberlain Ave	GA	30905	-82.117810	33.433354	3.22	1.91	10	12	55	1	1	2
Fort McPherson (E;C;F)	1374 Johnson Ave SW	GA	30330	-84.431420	33.702437	3.76	64.2	36	62	110	0	0	2
Fort Stewart (E;C;F;H)	55 Pony Soldier Ave	GA	31314	-81.606939	31.857544	2.19	1.56	3	12	28	1	2	3
Hunter AAF (E;C;F)	89 Haley St	GA	31409	-81.121792	32.028071	3.65	0.43	6	10	31	1	3	5

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Marine Corps Logistics Base Albany (E;C;F)	814 Radford Blvd	GA	31704	-84.059080	31.545200	2.85	0.49	3	10	39	1	1	5
Moody AFB (E;C;F;H)	4333 George St	GA	31699	-83.208281	30.978815	8.17	0.51	2	7	39	1	1	1
Robins AFB (E;C;F;H)	215 Page Rd	GA	31098	-83.587079	32.594073	1.48	0.48	6	13	79	1	1	3
Savannah ANG (E;)	Davidson Dr	GA	31402	-81.191861	32.141876	3.04	8.94	6	10	32	1	2	5
Submarine Base Kings Bay (E;C;F)	1209 USS Daniel Boone Ave	GA	31547	-81.572112	30.792798	3	0	4	18	34	1	3	5
Camp Dodge (E;M)	7105 NW 70th Ave	IA	50131	-93.713838	41.691588	2.95	121.53	9	14	27	0	0	0
Sioux City ANG	2920 Headquarters Ave	IA	51111	-96.370096	42.394962	2.76	90.97	3	6	30	0	0	1
Boise ANG (E;M)	4474 S DeHaviland St	ID	83705	-116.229352	43.560445	39.09	3.93	7	9	9	0	1	1
Mountain Home AFB (E;C;F;H)	615 Gunfighter Ave	ID	83648	-115.856173	43.069342	10.43	1.08	1	7	11	1	1	1
Camp Lincoln Exchange	1301 North MacArthur Blvd	IL	62702	-89.668517	39.816433	3.88	88.9	3	12	59	0	0	1
Naval Training Station Great Lakes (E;C;F;H)	2601 East Paul Jones St	IL	60088	-87.843685	42.312062	3.6	1.34	15	58	114	1	1	1
Peoria ANG	2416 s Falcon Blvd	IL	61607	-89.700460	40.658970	6.32	73.76	6	11	48	0	0	1
Rock Island Arsenal (E;C;M)	1 Rock Island Arsenal	IL	61299	-90.537599	41.517523	4.38	0.2	4	9	45	1	1	1
Scott AFB (E;C;F;H)	404 W Martin Dr	IL	62225	-89.867666	38.548308	5.24	0.79	7	29	66	1	1	1

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Camp Atterbury (E;M)	Eggleston St	IN	46164	-86.029852	39.360087	9.99	34.24	9	26	94	0	1	2
Crane Naval Support Activity (E;C;F;M)	300 Hwy 361	IN	47522	-86.821611	38.896759	16.93	4.45	3	12	75	1	1	3
Grissom ARB (E;)	Hoosier Blvd	IN	46971	-86.147195	40.659317	11.18	55.92	3	19	90	0	0	1
Harrison Village (E;C)	9702 E 59th st	IN	46216	-85.997336	39.863061	1.12	0.7	18	32	94	1	1	2
Naval Surface Warfare Center Crane (E;C;F;R;H)	300 Highway 361	IN	47522	-86.831193	38.891006	17.1	3.92	3	12	75	1	1	3
Forbes Field ANG (E;M)	5920 SW Coyote Dr	KS	66619	-95.681582	38.960850	2.77	48.45	5	15	44	0	1	2
Fort Leavenworth (E;C;F;H)	310 Kansas Ave	KS	66027	-94.921240	39.338214	3.83	0	8	32	46	1	2	2
Fort Riley (E;C;F;H)	2310 Trooper Dr	KS	66442	-96.833411	39.071613	3.62	0.77	2	3	25	1	1	1
McConnell AFB (E;C;F;H)	53327 Derby Ct	KS	67221	-97.246991	37.641073	3.43	0.73	11	15	28	1	1	2
Salina ANG (M)	2930 Scanlin Ave	KS	67401	-97.636438	38.784605	1.19	47.66	1	4	23	0	1	2
Fort Campbell (E;C;F;H)	39 Normandy Blvd	KY	42223	-87.453430	36.638529	2.14	0.38	4	19	69	1	1	1
Fort Knox (E;C;F;H)	77 Binter St	KY	40121	-85.948418	37.881498	2.23	0.33	6	21	69	1	1	2
Louisville ANG	1101 Grade Ln	KY	40213	-85.723262	38.179122	3.33	23.63	6	21	69	1	1	2
Barksdale AFB (E;C;F;M)	1265 Twining Dr	LA	71110	-93.682138	32.510529	2.23	1.2	5	11	43	1	1	1
Camp Beauregard (E;)	409 F St	LA	71360	-92.401640	31.370343	0.44	53.18	3	9	41	0	0	1
Fort Polk (E;C;F;H)	7906 Colorado Ave	LA	71459	-93.216295	31.048115	5.9	0.19	2	8	41	1	1	1

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NASJRB New Orleans (E;F;M)	400 Russell Ave	LA	70143	-90.035000	29.825278	4.98	8.24	9	19	48	1	1	3
Naval Support Agency New Orleans (E;C;F;M)	2300 General Meyer Ave	LA	70142	-90.038110	29.950380	2.54	0.5	9	22	50	1	1	3
USCG ISC New Orleans (E;M)	1790 Saturn Blvd	LA	70129	-89.927518	30.014389	5.22	8.03	9	23	54	1	1	3
Fort Devens (E;)	1130 Quebec St	MA	1434	-71.617122	42.537385	6.47	17.51	7	27	53	1	1	4
Hanscom AFB (E;C;F;H)	1709 Griffiss St	MA	1731	-71.268434	42.461731	11.2	1.2	7	28	48	1	2	4
Natick Soldier Sys Center (E;M)	14 Kansas St	MA	1760	-71.363912	42.290822	11.52	12.43	10	29	52	1	1	4
USCG Air Station Cape Cod (E;C;F;M)	Lee Rd	MA	2542	-70.522500	41.665000	22.37	42.56	2	10	31	0	1	3
USCG Sector Boston (E;M)	427 Commercial St	MA	2109	-71.052562	42.367337	16.98	13.83	3	30	45	1	1	3
Westover ARB (E;F;M)	Westover ARB	MA	1022	-72.534722	42.194065	2.59	59.51	4	14	59	0	0	5
Aberdeen Proving Ground (E;C;F;M)	2201 Aberdeen Blvd	MD	21005	-76.170490	39.488940	0.54	1.93	8	30	93	1	5	14
Andrews AFB (E;C;F;H)	1191 Menoher Dr	MD	20762	-76.883354	38.796373	9.98	1.33	13	33	84	6	9	14
Bethesda Naval Medical Center (E;F;H)	8901 Wisconsin Ave	MD	20889	-77.095309	39.001856	4.61	2.27	12	29	85	6	8	12
Edgewood Area; Aberdeen PG (E;F;M)	5183 Blackhawk Rd	MD	21010	-76.297918	39.401267	8.17	9.74	8	29	91	1	5	14
Fort Detrick (E;C;F;M)	810 Schneider St	MD	21702	-77.411970	39.445100	3.44	0.59	4	34	89	1	5	12

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Fort Meade(E;C;F;H)	4217 Roberts Ave	MD	20755	-76.735308	39.116714	3.84	0.92	11	30	88	6	9	
Goddard Space Flight Center	Greenbelt Rd	MD	20771	-76.852772	38.991326	7.87	9.86	5	29	82	6	11	13
NAS Patuxent River (E;C;F;H)	21993 Bundy Rd	MD	20670	-76.412348	38.275008	5.12	1.14	1	9	45	1	4	17
Naval Station Annapolis (E;C;F;R;H)	58 Bennion Rd	MD	21402	-76.467890	38.987931	14.6	0.2	4	20	90	3	11	13
NSWC Indian Head (E;M)	101 Strauss Ave	MD	20640	-77.202624	38.575480	5.82	8.56	15	25	84	5	7	12
United States Naval Academy (E;C;F;M)	348 Kinkaid Rd	MD	21402	-76.485185	38.979220	14.5	1.17	4	20	90	3	11	13
USCG Yard Curtis Bay (E;M)	2401 Hawkins Point Rd	MD	21226	-76.569349	39.204230	2.26	11.47	10	26	96	2	9	13
Walter Reed Army Med Ctr Forest Glen Annex (E;C;F)	503 Robert Grant Ave	MD	20910	-77.054172	39.004321	3.29	0.35	13	33	84	6	9	14
Warfield ANG (E;M)	2701 Eastern Blvd	MD	21220	-76.428462	39.335315	3.23	18.1	10	26	92	3	7	14
Bangor ANG (E;C)	103 Maineiac Ave	ME	4401	-68.820390	44.817430	4.28	0	3	6	12	1	1	1
Camp Keyes (E;)	Camp Keyes	ME	4333	-69.791644	44.317622	2.11	59.19	2	10	19	0	0	2
NAS Brunswick (E;C;F;H)	750 Neptune Dr	ME	4011	-69.919593	43.905776	0.58	70.32	2	8	26	0	0	2
USCG Group South Portland (E;)	2112 Broadway St	ME	4106	-70.290006	43.630220	2.81	44.04	3	10	27	0	1	2
USCG Group Southwest Harbor (E;)	184 Clark Point Rd	ME	4679	-68.316670	44.278080	17.46	44.79	1	3	10	0	1	1

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USCG Station Rockland (E;)	54 Tillson Ave	ME	4841	-69.102908	44.104654	38.42	51.23	0	5	16	0	0	1
Alpena CRTC ANG (E;)	5884 A St.	MI	49707	-83.569070	45.071170	4.56	174.22	1	1	7	0	0	0
Camp Grayling ANG (E;R;M)	Camp Grayling	MI	49739	-84.899444	44.597500	23.39	172.73	1	4	19	0	0	0
Kellogg ANG (E;)	3545 Mustang Ave	MI	49015	-85.266756	42.329277	6.71	126.95	5	14	73	0	0	0
Selfridge ANGB (E;C;F;M)	701 George St	MI	48045	-82.823610	42.628800	1.52	1.57	6	24	59	1	1	1
USCG Air Station Traverse City (E;M)	1175 Airport Access Rd	MI	49686	-85.581769	44.751318	3.03	202.85	1	3	13	0	0	0
USCG Group Detroit (E;M)	110 Mount Elliott Ave	MI	48207	-83.007347	42.341187	10.39	20.95	13	23	64	1	1	1
USCG Sector Grand Haven (E;)	650 Harbor Dr	MI	49417	-86.241903	43.059568	2.04	97.71	4	8	50	0	0	1
USCG Sector Sault St. Marie (E;M)	337 Water St	MI	49783	-84.338349	46.498986	2.74	279.03	1	1	3	0	0	0
Camp Ripley (E;)	15000 Hwy 115	MN	56345	-94.347655	46.075305	6.6	192.8	2	7	32	0	0	0
Duluth ANG (E;M)	4680 Viper St	MN	55811	-92.171205	46.846673	2.19	208.84	3	3	11	0	0	0
Minneapolis/St Paul ARS (E;)	760 Military Hwy	MN	55450	-93.215305	44.896165	3.43	139.09	18	28	48	0	0	0
Fort Leonard Wood (E;C;F;H)	140 Replacement Ave	MO	65473	-92.126275	37.740100	6.08	1.65	2	9	48	1	1	1
Marine Corps Mobilization Command (E;)	15424 Andrews Rd	MO	64147	-94.548725	38.864197	3.43	1.56	19	30	54	1	2	2
St. Joseph ANG	705 Memorial Dr	MO	64503	-94.898270	39.760420	5.29	29.19	3	13	47	0	1	3

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St. Louis Army Human Resources Cmd (E;)	1 Reserve Way	MO	63132	-90.270207	38.688661	5.7	24.21	20	35	66	1	1	1
Whiteman AFB (E;C;F;H)	509 Spirit Blvd	MO	65305	-93.575247	38.737272	9.18	0.92	2	14	58	1	1	3
Camp Shelby (E;M)	Lee Ave	MS	39407	-89.186667	31.187778	11.46	56.41	3	9	47	0	0	3
Columbus AFB (E;C;F;H)	323 Simler Blvd	MS	39710	-88.436333	33.622626	7.12	0.81	2	10	49	1	1	1
Gulfport Armed Forces Retirement Home	1800 Beach Dr	MS	39507	-89.016733	30.385045	1.41	6.43	6	14	45	2	2	3
Gulfport/Biloxi ANG (E;F;M)	4715 Hewes Ave	MS	39507	-89.062078	30.408396	1.98	4.65	6	13	43	2	2	3
Jackson/Evers ANG (E;M)	141 Military Dr	MS	39232	-90.083869	32.328488	3.56	87.39	8	13	36	0	0	0
Keesler AFB (E;C;F;H)	500 Fisher St	MS	39534	-88.910980	30.399160	4.21	0.34	5	17	50	2	2	4
Meridian ANG (E;M)	6225 M St	MS	39307	-88.742129	32.344399	2.91	15.91	3	7	34	1	1	2
NAS Meridian (E;C;F;M)	255 Rosenbaum Ave	MS	39309	-88.605768	32.550996	14.09	0.4	2	6	33	1	1	2
Naval Construction Battalion Center Gulfport (E;C;F)	4902 Marvin Shields Blvd	MS	39501	-89.103094	30.380341	3.04	1.54	6	12	47	2	2	3
Fort William Henry Harrison (E;)	Fort Harrison	MT	59604	-112.094937	46.630600	5.63	74.58	1	2	6	0	0	1
Great Falls ANG (E;M)	2800 Airport Ave	MT	59404	-111.359482	47.477884	4.43	8.34	1	1	2	1	1	1

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Malmstrom AFB (E;C;F;H)	7228 Fourth Ave North	MT	59402	-111.203619	47.507057	4.53	0.91	1	1	3	1	1	1
Camp Lejeune MCB (E;C;F;R;H)	14 McHugh Blvd	NC	28547	-77.344200	34.725340	4.63	2.13	3	8	37	2	2	6
Charlotte ANG	5225 Moms Field Dr	NC	28208	-80.926130	35.216655	1.97	83.41	20	40	107	0	0	2
Fort Bragg (E;C;F;R;H)	Fort Bragg	NC	28310	-78.999167	35.139167	3.01	1.53	9	26	88	2	2	5
MCAS Cherry Point (E;C;F;R;H)	Cherry Point MCAS	NC	28533	-76.905970	34.883220	2.83	6.49	3	7	24	1	3	3
MCAS New River (E;C;F;R;H)	Curtis Rd	NC	28545	-77.468890	34.726840	1.67	1.24	2	11	44	2	3	6
Pope AFB (E;C;F;H)	829 Armistead St	NC	28308	-79.019929	35.177588	3.01	1.9	9	27	90	2	2	4
Seymour-Johnson AFB (E;C;F;H)	1200 Wright Brothers Ave	NC	27531	-77.957989	35.365846	1.58	0.59	4	17	69	1	1	5
USCG Station Fort Macon (E;H)	2301 East Fort Macon Rd	NC	28512	-76.680700	34.695477	8	18.34	2	5	17	1	3	3
USCG Support Center Elizabeth City (E;C;F;R;H)	USCG Air Station	NC	27909	-76.183333	36.257500	6.99	38.71	1	14	32	0	4	8
Camp Gilbert Grafton (E;H)	4417 Hwy 20	ND	58301	-98.889793	48.067876	82.32	70.62	0	0	4	0	0	1
Cavalier AFS (E;)	730 Patrol Rd	ND	58220	-97.904852	48.722956	65.66	58.96	1	5	41	1	1	3
Grand Forks AFB (E;C;F;R;H)	380 Warrior Dr	ND	58205	-97.368415	47.947716	11.79	0.46	2	3	8	1	1	1

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Hector ANG (E;)	1400 28th Ave N	ND	58102	-96.799316	46.912023	4.15	76.35	3	5	15	0	0	1
Minot AFB (E;C;F;R;H)	360 Missile Ave	ND	58705	-101.303588	48.418702	15.4	1.73	1	2	2	1	1	1
Raymond J Bohn Armory (E;)	4200 East Divide Ave	ND	58506	-100.730569	46.828872	2.71	113.97	2	2	5	0	0	0
Camp Ashland (E;)	220 CR A	NE	68003	-96.334867	41.063117	10.46	21.89	11	18	32	1	1	1
Lincoln ANG (E;)	2420 West Butler Ave	NE	68524	-96.754857	40.841984	4.13	47.55	5	18	31	0	1	1
Offutt AFB (E;C;F;H)	101 Meyer Ave	NE	68113	-95.922913	41.111519	3.11	0.59	10	17	34	1	1	1
New Boston AFS	317 Chestnut Hill Rd	NH	3070	-71.621710	42.947916	9.71	37.55	4	19	51	0	2	3
Pease ANG (E;)	302 Newmarket St	NH	3803	-70.815336	43.089367	3.96	4.03	6	14	46	1	2	2
Portsmouth Naval Shipyard (E;C;M)	Portsmouth Naval Shipyard	NH	3804	-70.734167	43.078889	4.16	0.14	5	14	46	1	1	2
Atlantic City ANG (E;)	400 Langley Rd	NJ	8234	-74.593893	39.434207	3.42	41.23	3	12	58	0	2	4
Fort Dix (E;C;F;M)	5417 Alabama Ave	NJ	8640	-74.617639	40.012655	14.1	1.43	4	27	61	2	2	8
Fort Monmouth (E;C;F;M)	1007 Alexander Ave	NJ	7703	-74.034508	40.317868	7.03	20.28	5	16	54	1	5	7
McGuire AFB (E;C;F;H)	2907 Tuskegee Airmen Ave	NJ	8641	-74.587856	40.037302	14.29	1.11	4	27	63	2	2	7
Naval Air Engineering Station Lakehurst (E;C;M)	Walsh Rd	NJ	8733	-74.353611	40.033333	9.69	1.63	6	21	64	2	5	8

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Naval Weapons Station Earle (E;M)	201 State Hwy 34	NJ	7722	-74.166950	40.272240	5.42	18.43	4	18	56	2	5	7
Picatinny Arsenal (E;C;M)	Picatinny Arsenal	NJ	7806	-74.541667	40.959167	11.16	5.18	3	19	68	1	4	7
USCG Station Sandy Hook (E;)	20 Crispin Rd	NJ	7732	-74.008158	40.468701	14.27	9.94	7	16	56	1	5	7
USCG Training Center Cape May (E;M)	1 Munro Ave	NJ	8204	-74.882142	38.948103	36.8	33.81	0	6	58	0	1	5
Cannon AFB (E;C;F;M)	102 W Octagon St	NM	88103	-103.318920	34.401765	7.24	1.02	2	2	13	1	1	1
Holloman AFB (E;C;F;H)	751 New Mexico Ave	NM	88330	-106.070635	32.833999	7.57	0.7	1	2	16	1	1	3
Kirtland AFB (E;C;F;H)	2000 Wyoming Ave	NM	87117	-106.550217	35.065973	1.38	0.8	12	13	18	1	1	1
White Sands Missile Range (E;C;F;M)	262 Picatinny	NM	88002	-106.479513	32.387547	16.61	0.94	1	10	14	1	2	2
Creech AFB (E;M)	1st St	NV	89018	-115.673333	36.587222	31.16	42.25	0	14	17	0	1	1
NAS Fallon (E;C;F;M)	4755 Pasture Rd	NV	89496	-118.725459	39.402819	6.69	0.001	1	2	11	1	1	2
Nellis AFB (E;C;F;H)	4200 Mountain Home	NV	89191	-115.051445	36.241625	0.53	0.35	15	15	20	1	1	1
Reno ANG	1776 National Guard Way	NV	89502	-119.778400	39.499340	1.67	56.31	7	10	18	0	0	3
Stead ANG	4600 Alpha Ave	NV	89506	-119.870203	39.657230	2.92	63.57	6	9	16	0	0	3
Camp Smith	Camp Smith	NY	10567	-73.941604	41.299309	10.81	6.14	1	14	47	3	4	8
Fort Drum (E;C;F;m)	10730 Enduring Freedom Dr	NY	13602	-75.825319	44.051624	1.23	2.05	3	3	19	1	1	1

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Fort Hamilton (E;C;F;M)	113 Schum Ave	NY	11252	-74.031361	40.610462	5.26	0.25	7	15	53	2	5	7
Mitchel Housing (E;C;M)	82B Mitchel Ave	NY	11554	-73.577838	40.711286	2.66	3.24	3	10	42	2	2	7
Naval Support Unit Saratoga Springs (E;C;H)	197 J.F. King Dr	NY	12866	-73.820433	43.080131	3.93	18.92	6	13	31	1	1	1
Niagara Falls ARS (E;)	2720 Kirkbridge Dr	NY	14304	-78.948500	43.118370	2.18	171.18	6	10	30	0	0	0
Rochester ARC (E;)	2035 Goodman St North	NY	14609	-77.577077	43.193470	1.15	107.52	6	13	37	0	0	0
Soldiers'; Sailors'; Marines' & Airmens' Club	283 Lexington Ave	NY	10016	-73.978399	40.748003	4.53	9.68	6	15	53	2	4	7
Stewart ANG (E;)	218 Militia Way	NY	12550	-74.081710	41.505140	0.67	10.08	4	11	48	1	2	6
Stratton ANG	1 Air National Guard Rd	NY	12302	-73.919440	42.852580	1.43	3.58	7	15	36	1	1	1
Syracuse Hancock ANG (E;)	6001 E Molloy Rd	NY	13211	-76.103070	43.099540	4.36	67.15	6	16	38	0	0	1
United States Merchant Marine Academy (E;)	300 Steamboat Rd	NY	11024	-73.760724	40.812987	9.81	9.12	2	11	51	6	3	8
United States Military Acadamey West Point (E;C;F;M)	622 Swift Rd	NY	10996	-73.962892	41.379921	10.01	0.06	1	15	47	4	4	8
USCG Group Buffalo (E;)	1 Fuhrmann Blvd	NY	14203	-78.888582	42.876799	8.19	175.67	6	10	32	0	0	0
USCG Sector New York (E;)	212 Coast Guard Dr	NY	10305	-74.062750	40.604437	4.61	1.87	6	15	58	2	3	7

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Watervliet Arsenal (E;M)	Watervliet Arsenal	NY	12189	-73.708611	42.718333	5.41	16.16	5	15	37	1	1	2
West Hampton Beach ANG (E;M)	150 Riverhead Rd	NY	11978	-72.646773	40.830956	50.48	52.36	0	5	32	0	1	5
Camp Perry (E;)	1000 Lawrence Rd	OH	43452	-83.020140	41.531285	8.13	75.11	3	20	86	0	0	1
Defense Supply Center Columbus (E;)	3990 East Broad St	OH	43218	-82.894039	39.974079	1.38	61.37	12	25	82	0	0	1
Mansfield LAHM ANG	1947 Harrington Memorial Rd	OH	44903	-82.513390	40.814370	5.51	105.69	4	20	87	0	0	0
Rickenbacker ANG (E;)	7370 Minuteman Way	OH	43217	-82.943407	39.815099	6.75	57.83	12	29	89	0	0	1
USCG Exchange (Capt Otto Graham) (E)	13920 West Parkway Rd	OH	44135	-81.789454	41.431029	1.98	96.76	15	30	77	0	0	0
USCG Marine Safety Office (E;M)	1055 East 9th St	OH	44199	-81.694014	41.508256	95.22	3.18	11	25	72	0	0	0
USCG Station Toledo (E)	3900 North Summit St	OH	43611	-83.482878	41.697983	4.28	71.66	7	25	85	0	0	0
Wright-Patterson AFB (E;C;F;H)	2000 Allbrook Dr	OH	45433	-84.043614	39.798487	1.92	1.37	13	28	87	1	1	1
Youngstown-Warren ARS (E;M)	3976 King Graves Rd	OH	44473	-80.676500	41.268380	5.14	65.18	8	31	79	0	0	1
Altus AFB (E;C;F;H)	205 S 1st St	OK	73523	-99.292699	34.652245	2.43	0.45	1	4	14	1	2	3
Camp Gruber (E;)	Camp Gruber	OK	74403	-95.186667	35.675833	12.39	125.58	4	20	52	0	0	0

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Fort Sill (E;C;F;H)	6322 NW Currie Rd	OK	73503	-98.462299	34.678679	3.26	3.48	2	7	34	1	2	4
McAlesterr Army Ammunition Plant (E;M)	1 C Tree Rd	OK	74501	-95.891368	34.839727	10.02	94.82	1	3	52	0	0	0
Oklahoma City ANG (M)	5624 Air Guard Dr	OK	73179	-97.614200	35.409400	3.66	12.46	16	24	51	1	1	3
Tinker AFB (E;C;F;M)	3420 D Ave	OK	73145	-97.405987	35.432921	1.48	0.8	15	24	50	1	1	1
Tulsa ANG (E;)	4200 N 93rd Ave	OK	74115	-95.873052	36.215697	3.98	100.88	14	23	58	0	0	1
Vance AFB (E;C;F;H)	446 McAffrey Ave	OK	73705	-97.899172	36.346560	3.79	0.68	1	5	43	1	1	3
Camp Rilea (E;)	33168 Patriot Way	OR	97146	-123.930149	46.122846	45.43	92.16	0	2	19	0	0	2
Kinglsy Field ANG (E;M)	211 Arnold Ave	OR	97603	-121.747900	42.163920	2.11	210.91	1	1	5	0	0	0
Portland ANG (E;M)	6801 Northeast Comfoot Rd	OR	97218	-122.594510	45.574684	3.58	104.89	7	13	19	0	0	0
USCG Air Station (E;F;M)	2185 Southeast airport Rd	OR	97146	-123.886879	46.153076	43.48	89.25	0	2	20	0	0	2
USCG Exchange Astoria (E;F)	1240 W Marine Dr	OR	97103	-123.841740	46.171923	41.22	86.76	0	2	21	0	0	2
USCG Exchange Coos Bay (E)	1684 Ocean Blvd	OR	97420	-124.233637	43.377171	1.37	268.73	1	2	7	0	0	0
USCG Group North Bend (E;M)	2000 Connecticut Ave	OR	97459	-124.241712	43.409965	1.44	266.75	1	2	7	0	0	0
USCG Sector Portland (E;M)	6767 North Basin Ave	OR	97217	-122.719750	45.572392	2.55	105.31	8	13	18	0	0	0

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Carlisle Barracks US Army War College (E;C;M)	851 Sumner Rd	PA	17013	-77.171445	40.207828	1.77	0.17	5	19	83	1	1	9
Defense Distribution Center Susquehanna (E;F;M)	2001 Mission Dr	PA	17070	-76.849910	40.206970	4.35	17.16	7	21	90	1	1	9
Defense Supply Center Philadelphia (E;M)	700 Robbins Ave	PA	19111	-75.089111	40.044224	3.33	25.68	14	32	78	0	2	6
Fort Indiantown Gap (E;F;M)	1 Garrison Rd	PA	17003	-76.568124	40.414291	6.42	34.98	5	28	100	0	1	7
Harrisburg ANG (E;)	76 Constellation Ct	PA	17057	-76.731159	40.199846	4.74	23.43	7	21	90	1	1	9
NASJRB Willow Grove (E;M)	NAS Willowgrove	PA	19090	-75.148200	40.199800	2.83	30.98	15	32	76	0	2	7
Naval Support Activity Mechanicsburg (E;M)	5450 Carlisle Pike	PA	17055	-76.983126	40.237693	2.32	10.27	7	21	90	1	1	9
Pittsburgh ARS (E;M)	2475 Defense Ave	PA	15108	-80.207752	40.495688	3.68	7.23	9	30	83	1	1	1
Tobyhanna Army Depot (E;C;F;M)	11 Hap Arnold Blvd	PA	18466	-75.428480	41.187773	5.21	0.85	6	1	68	1	2	3
USCG Station Philadelphia (E;M)	1 Washington Ave	PA	19147	-75.142521	39.933367	0.56	29.23	14	32	78	0	2	6
Naval Station Newport (E;C;F;H)	1260 Pearly St	RI	2841	-71.319679	41.516879	10.07	0.07	6	20	34	1	2	3

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Quonset ANG	211 Belver Ave	RI	2852	-71.418377	41.596940	3.93	7.43	8	20	38	1	2	3
Charleston AFB (E;C;F;H)	103 Lawson Dr	SC	29404	-80.068360	32.891240	3.05	0.24	12	15	44	2	2	6
Fort Jackson (E;C;F;H)	5670 Strom Thurmond Blvd	SC	29207	-80.943162	34.020604	0.45	1.19	12	17	84	1	2	5
MCAS Beaufort (E;C;F;M)	Beaufort Marine Corps Air Station	SC	29904	-80.729490	32.459020	2.37	7.94	3	11	31	1	2	5
McEntire ANG (E;M)	1325 South Carolina Rd	SC	29044	-80.800647	33.937893	8.17	8.87	11	16	80	2	2	5
MCRD Parris Island (E;C;F;M)	MCRD Parris Island	SC	29905	-80.716730	32.375010	3.58	2.3	3	12	29	1	2	5
Naval Hospital Beaufort (E;F;H)	1 Pinckney Blvd	SC	29902	-80.665830	32.435890	4.05	6.28	3	13	31	1	3	5
Naval Weapons Station Charleston (E;C;F;M)	1005 Jefferson Ave	SC	29445	-79.938672	32.959422	5.88	2.92	9	12	43	2	2	6
Shaw AFB (E;C;F;H)	524 Stuart Ave	SC	29152	-80.491001	33.957144	5.84	1.6	3	17	72	1	2	4
USCG Sector Charleston (E;M)	196 Tradd St	SC	29401	-79.943602	32.774068	3.88	11.05	9	11	34	2	2	5
Ellsworth AFB (E;C;F;M)	2649 Lemay Blvd	SD	57706	-103.074363	44.132586	6.66	0.98	2	3	4	1	1	1
Joe Foss Field ANG (E;M)	1201 West Algonquin St	SD	57104	-96.742113	43.572881	4.15	174.46	2	4	18	0	0	0
Arnold AFB (E;C;R;M)	125 Von Karman Rd	TN	37389	-86.078066	35.398810	4.19	1.25	4	19	91	1	1	1
Houston Barracks (E;)	3041 Sidco Dr	TN	37204	-86.758712	36.099154	0.96	53.83	15	26	64	0	0	2

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McGhee Tyson ANG (E;F)	134 Briscoe Dr	TN	37777	-84.006588	35.809613	2.82	86.05	11	20	73	0	0	1
Memphis ANG (M)	4607 Galaxy Dr	TN	38118	-89.975070	35.068650	7.49	18.75	10	18	51	1	1	1
Nashville ANG	240 Knapp Blvd	TN	37217	-86.675406	36.114187	3.6	56.59	16	28	66	0	0	3
Naval Support Activity Mid-South (E;C;F;M)	5722 Integrity Dr	TN	38054	-89.869262	35.325414	2.53	0.1	10	21	53	1	1	1
Smyrna ANG (E;)	607 Fitzhugh Blvd	TN	37167	-86.507604	36.011205	2.78	49.04	14	34	71	0	1	3
AAFES Headquarters Dallas (E)	3911 South Walton Walker Blvd	TX	75236	-96.896715	32.695775	3.3	117.85	42	78	108	0	0	0
Biggs AAF (E;C;F;M)	11210 csm east slewitzke st	TX	79916	-106.838631	31.834924	16.09	24.02	3	10	13	1	2	2
Brooke Army Medical Center	3851 Roger Brooke DR	TX	78234	-98.415455	29.460085	2.47	1.9	20	26	54	3	3	3
Brooks City-Base (E;F;H)	2510 Kennedy Circle	TX	78223	-98.453161	29.351419	1.24	7.11	19	24	51	3	3	3
Camp Mabry (E;)	2210 West 35th St	TX	78763	-97.757604	30.309036	3.5	56.79	16	23	65	0	0	5
Dyess AFB (E;C;F;H)	250 Commissary Rd	TX	79607	-99.811995	32.433688	2.38	1.5	2	3	11	1	1	2
Fort Bliss (E;C;F;M)	Ricker Rd	TX	79916	-106.424608	31.801847	2.27	1.26	9	10	12	1	2	2
Fort Hood (E;C;F;H)	1001 Tank Destroyer Blvd	TX	76544	-97.769030	31.126491	3.46	2.34	7	20	45	2	2	2
Fort Sam Houston (E;C;F;M)	2405 Funston Rd	TX	78234	-98.447365	29.462543	2.05	0.56	20	26	54	3	3	3

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Goodfellow AFB (E;C;F;H)	110 Valiant St	TX	76908	-100.409123	31.425426	5.31	0.45	2	2	6	1	1	2
Houston Space Center	1601 NASA Pkwy	TX	77058	-95.097394	29.551184	3.61	152.45	25	55	70	0	0	0
Kelly Annex; Lackland AFB	1701 Kenley Ave	TX	78236	-98.582380	29.383677	5.5	1.76	19	25	49	2	3	3
Lackland AFB (E;C;F;H)	2250 Foulois St	TX	78236	-98.621966	29.393744	3.62	0.78	19	25	46	3	3	3
Laughlin AFB (E;C;F;H)	574 5th St	TX	78843	-100.798943	29.366152	6.59	1.02	1	2	4	1	1	1
NAS Corpus Christi (E;C;F;M)	11001 D Street	TX	78419	-97.274132	27.681649	1.62	0.91	7	10	16	1	2	2
NAS Kingsville (E;C;F;M)	747 Rosendahl	TX	78363	-97.830339	27.491586	1.46	0.92	2	7	32	1	2	2
NASJRB Fort Worth (E;C;F;M)	1765 Military Parkway	TX	76127	-97.421211	32.764842	1.07	104.37	27	69	106	0	0	0
Randolph AFB (E;C;F;H)	555 F Street West	TX	78150	-98.287075	29.542587	3.79	0.32	20	26	54	3	3	3
Sheppard AFB (E;C;F;H)	718 I Ave	TX	76311	-98.512556	33.964987	1.34	0.55	3	8	26	1	2	3
USCG Air Station Ellington (E;)	14657 Sneider St	TX	77034	-95.171710	29.610670	2.6	153.02	26	57	74	0	0	0
USCG Sector Houston(E)	9644 Clinton Dr	TX	77029	-95.257549	29.733013	3.99	151.87	38	59	75	0	0	0
USCG Station Galveston (E;M)	3000 Fort Point Rd	TX	77550	-94.771349	29.329799	5.96	150.3	4	20	70	0	0	0
Waco Shoppette	1801 Exchange Pkwy	TX	76712	-97.178435	31.495711	2	40.62	3	11	90	0	2	2
Camp Williams (E;M)	17800 S Camp Williams Rd	UT	84065	-111.930856	40.436984	3.43	45.4	19	29	35	0	2	2

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Dugway Proving Ground (E;C;F;M)	5114 Second St	UT	84022	-112.727628	40.228112	32.04	0.97	0	9	31	1	1	2
Fort Douglas (E;)	Soldiers Circle	UT	84133	-111.833055	40.765278	3.33	27.41	16	29	35	0	1	2
Hill AFB (E;C;F;H)	7451 6th St	UT	84056	-111.973183	41.105491	2.52	3.28	7	27	34	1	1	2
Salt Lake ANG (E;)	765 North 2200 West	UT	84116	-111.953632	40.786066	4.19	24.38	17	29	34	1	1	2
Tooele Army Depot (M)	Tooele Army Depot	UT	84074	-112.333333	40.533333	2.37	30.34	10	26	31	0	2	2
Camp Allen (E;F)	1251 Yalu St	VA	23515	-76.295651	36.930314	2.58	1.27	16	21	42	6	6	8
Dam Neck Annex (E;F;M)	1912 Regulus Ave	VA	23461	-75.957515	36.777110	3.08	2.67	12	19	36	5	6	7
Davison Army AF	6970 Britten Dr	VA	22060	-77.182774	38.712783	7.27	1.95	15	25	85	5	7	12
Defense Supply Center Richmond (E;F;M)	8000 Jefferson Davis Highway	VA	23297	-77.436586	37.415049	5	12.64	13	18	69	1	1	11
Fort A P Hill (E;M)	Fort A.P.Hill	VA	22427	-77.276389	38.117778	14.46	19.35	15	25	80	5	10	14
Fort Belvoir (E;C;F;H)	6020 Gorgas R	VA	22060	-77.142316	38.709160	6.06	0.74	13	28	82	6	9	13
Fort Eustis (E;C;F;H)	Washington Blvd	VA	23604	-76.575200	37.159300	4.67	0.14	10	21	52	5	7	10
Fort Lee (E;C;F;H)	500 Lee Ave	VA	23801	-77.350167	37.243345	2.07	1.01	7	20	64	1	2	10
Fort Monroe (E;F;M)	3 Ruckman Rd	VA	23651	-76.307500	37.010439	4.54	4.71	16	21	42	6	6	8
Fort Myer (E;C;F;M)	523 Carpenter Rd	VA	22211	-77.079697	38.872320	6.35	0.31	13	33	84	6	9	14
Fort Pickett ANG (E;H)	Fort Pickett	VA	23824	-77.949167	37.053333	3.12	36.59	2	13	81	0	1	6

Base	Address	St	Zip	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Fort Story (E;F;M)	Fort Story	VA	23459	-76.016400	36.927300	7.77	7.95	12	19	36	5	6	7
Henderson Hall USMC (E;M)	1555 S Southgate Rd	VA	22214	-77.070513	38.868789	3.86	0.25	13	33	84	6	9	14
JAG School (E;)	600 Massie Rd	VA	22903	-78.505800	38.053911	3.65	55.46	4	11	61	0	0	7
Joint Forces Staff College (E;C;F;M)	800 Hampton Blvd	VA	23511	-76.302076	36.864410	3.28	3.77	16	21	42	6	6	8
Langley AFB (E;C;F;H)	51 Spaatz Dr	VA	23665	-76.360169	37.074408	2.51	0	15	20	44	6	6	9
MCB Quantico (E;C;F;M)	3400 Russell Rd	VA	22134	-77.390034	38.513268	3.22	2.59	15	22	76	3	7	12
NAS Oceana (E;C;F;M)	1750 Tomcat Blvd	VA	23460	-76.024182	36.814722	2.63	1.91	12	19	36	5	6	7
Naval Amphib Base Little Creek (E;C;F;M)	2600 Tarawa Court	VA	23521	-76.191358	36.916433	3.48	1.72	16	19	44	6	6	8
Naval Shipyard Norfolk (E;C;F;M)	Portsmouth Naval Shipyard	VA	23709	-76.297333	36.815278	2.59	0.82	16	20	42	6	6	7
Naval Station Norfolk (E;C;F;M)	1588 Mall Dr	VA	23505	-76.305822	36.945488	3.65	0.42	16	21	42	6	6	8
Naval Support Activity Northwest (E;F;M)	1320 Northwest Blvd	VA	23322	-76.247062	36.566485	6.27	17.15	13	23	35	3	6	7
Naval Surface Warfare Center Dahlgren (E;C;M)	6196 Jenkins Rd	VA	22448	-77.040769	38.328003	1.78	0	4	21	87	2	7	16

Base	Address	St	Zip	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
Naval Weapons Station Yorktown (E;F;M)	Naval Weapons Station	VA	23691	-76.549167	37.235833	8.33	5.55	7	23	49	3	7	10
Naval Weapons Yorktown - Cheatham Annex (E;C;F;M)	108 Sanda Ave	VA	23185	-76.622075	37.280669	7.79	8.83	6	24	53	2	7	10
Portsmouth Naval Medical Center (E;H)	620 John Paul Jones Circle	VA	23708	-70.737655	43.078128	4	0.2	5	14	46	1	1	2
Quarters K Citgo Mart (E;F)	801 S Joyce St	VA	22204	-77.064048	38.869548	3.54	0.59	13	33	84	6	9	14
Surface Combat System Ctr Wallops Island (E;)	30 Battle Group Way	VA	23337	-78.656894	37.431573	11	81.11	12	14	57	0	0	2
USCG Finance Center (E)	1430 Kristina Way	VA	23320	-76.239297	36.772797	0.57	4.69	14	24	39	5	6	7
USCG ISC Portsmouth (E;M)	4000 Coast Guard Blvd	VA	23703	-76.358957	36.883014	3.84	4.83	15	20	42	6	6	8
USCG Training Center Yorktown (E;F;M)	USCG Training Center	VA	23690	-76.478920	37.218094	6.82	6.82	7	23	49	3	7	10
Camp Johnson (E;)	789 Vermont National Guard Rd	VT	5446	-73.162912	44.501369	20.84	122.19	1	2	11	0	0	0
Ethan Allen Firing Range	113 Ethan Allen Rd	VT	5465	-72.950165	44.480816	30.62	124.75	0	2	10	0	0	0
Fairchild AFB (E;C;F;H)	105 W Spaatz Rd	WA	99011	-117.662000	47.628290	4.98	0.96	5	8	16	1	1	1
Fort Lewis (E;C;F;H)	525 Replacement	WA	98433	-122.586735	47.100617	7.22	0.95	10	15	25	2	4	6

Base	Address	St	Zip	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
McChord AFB (E;C;F;H)	735 Fifth St	WA	98438	-122.483574	47.155320	3.17	2.39	10	15	25	2	4	6
NAS Whidbey Island (E;C;F;H)	3730 North Charles Porter Ave	WA	98278	-122.662370	48.335284	16.32	3.87	1	7	20	1	4	6
Naval Base Kitsap (E;C;H)	120 South Dewey St	WA	98314	-122.652550	47.558686	3.02	9.47	4	17	19	2	5	6
Naval Station Everett (E;C;M)	2000 West Marine View Dr	WA	98207	-122.213867	47.992349	6.26	9.44	3	10	22	1	4	6
Submarine Base Bangor (E;C;F;M)	2600 Ohio St	WA	98315	-122.694937	47.701209	4.18	0.15	2	18	19	2	6	6
USCG Air Station Port Angeles (E;M)	Ediz Hook Rd	WA	98362	-123.413055	48.140555	2.88	37.68	2	3	20	0	3	6
USCG Station Seattle (E;M)	1519 Alaska Way	WA	98134	-122.354151	47.561165	8.39	18.76	5	17	22	2	6	6
Vancouver Barracks (E;)	754 Vancouver Barracks	WA	98661	-122.663352	45.625774	2.23	101.43	8	13	20	0	0	0
Yakima Training Center (E;)	970 Firing Center Rd	WA	98901	-120.464723	46.677347	4.72	100.63	2	3	18	0	0	0
Dane County ANG (E;M)	3110 Mitchell St	WI	53704	-89.334609	43.133186	5.33	91.01	2	17	80	0	0	2
Fort McCoy (E;C;F;M)	1537 South J St	WI	54656	-90.700174	44.028930	9.03	1.51	3	8	30	1	1	1
General Mitchell ANG (M)	300 E College Ave	WI	53207	-87.885700	42.944380	1.71	43.79	15	29	105	0	1	1
Milwaukee Post Exchange (E)	4828 West Silver Spring Dr	WI	53218	-87.973302	43.119418	3.44	56.11	16	32	96	0	0	1

Base	Address	St	Zip	Long	Lat	clsest wmt	clsest com	# of Walmarts w/in 25 miles	# of Walmarts w/in 50 miles	# of Walmarts w/in 100 miles	# of Com w/in 25 miles	# of Com w/in 50 miles	# of Com w/in 100 miles
USCG Sector Lake Michigan (E;M)	2420 S Lincoln Memorial Dr	WI	53207	-87.888653	43.000836	3.29	47.7	14	31	103	0	1	1
Volk Field ANG (E;)	100 Independence Dr	WI	54618	-90.263744	43.926942	13.88	22.07	3	11	35	1	1	1
Camp Dawson (E;M)	240 Army Rd	WV	26537	-79.656284	39.459608	4.54	70.01	5	18	61	0	0	2
Charleston Armory Exchange	1679 Coonskin Dr	WV	25311	-81.584541	38.374922	8.02	119.13	12	16	41	0	0	0
Eastern WV ANG (M;)	222 Sabre Jet Blvd	WV	25401	-77.977955	39.408029	3.25	29.63	7	18	79	0	1	13
Sugar Grove NIOC (E;C;F;M)	63 Hedrick Dr	WV	26815	-79.275635	38.508370	20.26	7.65	2	9	48	1	1	1
Yeager ANG (E;M)	1679 Coonskin Dr	WV	25311	-81.584541	38.374922	8.02	119.13	12	16	41	0	0	0
Cheyenne ANG	217 Dell Range Blvd	WY	82009	-104.825491	41.163943	1.81	2.47	1	6	29	1	1	2
F. E. Warren AFB (E;C;F;H)	6205 Missle Dr	WY	82005	-104.841704	41.147167	2.84	1.48	1	6	29	1	1	2
						49.3024	81.18360902	25			133		
					Average	8.53	30.70	7.52	17.19	47.82	1.32	2.16	4.12
					Standard Deviation	13.61	47.84	6.67	12.25	26.50	1.61	2.42	3.79
					Min	0.44	0.00	0.00	0.00	1.00	0.00	0.00	0.00
					Max	97.30	279.03	42.00	78.00	121.00	6.00	11.00	17.00

LIST OF REFERENCES

Alcott, M. (1994). *An evaluation of direct cash compensation in lieu of military commissary privileges* (master's thesis). Retrieved from Calhoun https://archive.org/details/evaluationofdire00alco

Bowers, E. (1975). *Study of military commissary stores,* Vol. I. Assistant Secretary of Defense (Manpower and Reserve Affairs). Washington D.C. Retrieved from http://www.dtic.mil/docs/citations/ADA011503

Brink, R. (2001). Commissary shoppers save 29 percent [Article]. Retrieved from: http://www.pica.army.mil

Bartel, B. (2014). Proposed commissary cutbacks draw criticism [Article]. *Virginia Pilot Online*. Retrieved from: http://hamptonroads.com

Basker, E., & Noel, M. (2007). *The evolving food chain: competitive effects of Walmart's expansion into the supermarket industry. journal of economics & management strategy.* Paper written as joint effort from University of Missouri and University of California San Diego. Retrieved from: http://econweb.ucsd.edu

Bushatz, A. (2014). Pentagon proposes plan to gut commissary's budget [Article]. *Military News*. Retrieved from: http://www.military.com

Census Population and Housing Tables. (2010). *Population change for metropolitan and micropolitan statistical areas in the United States and Puerto Rico (February 2013 Delineations): 2000 to 2010 (CPH-T-5).* Retrieved from: http://www.census.gov

Chantrill, C. (2014). What is the deficit? Retrieved from: http://www.usgovernmentdebt.us

City Coordinates. Retrieved September 11, 2014 from: http://citylatitudelongitude.com

Crawford, M. & Church, J. (2013). CPI detailed report. Retrieved from: http://www.bls.gov

Dearing, J. L. (1984). *An evaluation of the perceived and actual cost comparisons of commissaries: Fort Ord case* (master's thesis). Retrieved from: http://calhoun.nps.edu/handle/10945/19314

deWilde, C. R. *Evaluation of directly subsidizing commercial supermarket discounts as an alternative to providing CONUS commissaries*. Retrieved from: http://calhoun.nps.edu/handle/10945/32678

DeCA Mission Statement. Retrieved October 8, 2014 from: http://www.commissaries.com

Defense Commissary Agency: Annual Financial Report Fiscal Year 2013. (2013). Retrieved from: http://www.commissaries.com

Demographics (2012). Profile of the military community. Office of the Deputy Assistant Secretary of Defense. Retrieved from: http://www.militaryonesource.mil

Dinan, S. (2014, October 8). Feds run $486B deficit in 2014—smallest of Obama administration. *The Washington Times*. Retrieved from: http://www.washingtontimes.com

DODI 1330.17, (June, 18, 2014). DOD Commissary program. Enclosure 3: establishment and discontinuation of commissary stores.

DOD Statistical Report on the Military Retirement System (2011). Retrieved from: http://actuary.defense.gov

Federation of Tax Administrators. (2014). State sales tax rates and food & drug exemptions (as of January 1, 2014). Retrieved from: http://www.taxadmin.org

Fettig, D. (2006, March 1). Thomas J. Holmes on Walmart's location strategy. *Fedgazette*. Retrieved from: https://www.minneapolisfed.org

Goldman, L. (2011, July 20). The incredible story of Walmart's expansion from five & dime to global megacorp. *Business Insider.* Retrieved from: http://www.businessinsider.com

History of U.S. Military Commissaries. Retrieved October 6, 2014 from: http://www.commissaries.com

History Timeline. Retrieved October 6, 2014 from: http://corporate.walmart.com

Holmes, T. (2011). The diffusion of Walmart and economies of density. *Econometrica,* Vol. 79, No. 1. Retrieved from: http://www.econ.umn.edu

Information Paper on 2013 Price Comparison Survey. (2013). Retrieved through the Freedom of Information Act through the Defense Commissary Agency.

Joint Publication 1–02 (2010). Department of Defense dictionary of military and associated terms. Retrieved from: http://www.dtic.mil

Jowers, K. (2014, April 30). House panel rejects commissary cuts, delays other changes. *Navy Times.* Retrieved from: http://www.militarytimes.com

Lepore, M. (2011, February 11). Here's how Walmart became the #1 grocery in the country. *Business Insider*. Retrieved from: http://www.businessinsider.com

Lunney, K. (2014, April 3). Military families worry about possible commissary closures. *Government Executive.* Retrieved from: http://www.govexec.com

Marshall, T. C. (2011, September 22). Debt is biggest threat to national security, chairman says. *U.S. Department of Defense News*. Retrieved from: http://www.defense.gov

Mygrocerychecklist.com (2001). L.A. design. Retrieved from: mygroverychecklist.com

Office of the Assistant Secretary of Defense (Force Management & Personnel). (1989). The Jones Commission: DOD study of the military commissary system, vol. I. Retrieved from: http://www.dtic.mil

poi-factory.com (2014). Retrieved from: http://www.poi-factory.com/search/pfc/

President's Private Sector Survey on Cost Control. (1984). Washington DC: Government Printing Office. Retrieved from: http://babel.hathitrust.org

The Recommendations of the President's Private Sector Survey on Cost Control: Hearing before the Committee on Governmental Affairs, United States Senate. (1985) (testimony of Charles A. Bowsher). Retrieved from: http://www.gao.gov

Robinson, K. (2014, January 9). New price study validates 30% savings. *Commisary News and Information.* Retrieved from: http://www.commissaries.com

Sehgal, U. (2011, November 14). 16 Facts about Walmart that will blow your mind. *Business Insider.* Retrieved from: http://www.businessinsider.com

Skirbunt, P. (2008). The illustrated history of American military commissaries. Retrieved from: http://babel.hathitrust.org

Statistical Abstract Table 520: Veterans by Selected Period of Service and State (2012). Retrieved from: http://www.census.gov

Walmart U.S. (2014). Retrieved from: http://corporate.walmart.com/our-story/our-business/walmart-us

What is Taxable? (2013). California tax service center. Retrieved from: http://www.taxes.ca.gov

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