NAVAL POSTGRADUATE SCHOOL
MONTEREY, CALIFORNIA

THESIS

AN EXPLORATORY COST ANALYSIS
OF
NAVY RECRUITING STATIONS

by

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June 1997

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REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE June 1997	3. REPORT TYPE AND DATES COVERED Master's Thesis

4. TITLE AND SUBTITLE AN EXPLORATORY COST ANALYSIS OF NAVY RECRUITING STATIONS, UNCLASSIFIED

5. FUNDING NUMBERS

6. AUTHOR(S) Patricia Munoz

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT *(maximum 200 words)*

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14. SUBJECT TERMS
Navy Recruiting, station-level costs, station locations.

15. NUMBER OF PAGES 114

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18 298-102

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AN EXPLORATORY COST ANALYSIS OF NAVY RECRUITING STATIONS

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Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
June 1997

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ABSTRACT

In determining the most cost effective recruiting station locations, the military services must be able to identify station costs that vary by location as well as location-specific differences in production. This thesis is an exploratory analysis of station-level costs for Navy Recruiting stations. The thesis attempts to identify: (a) the relevant costs of Navy recruiting station location and realignments; (b) the effect of location and realignment decisions on these costs; and (c) who collects the relevant cost items. The thesis explores the feasibility of collecting the data necessary for a cost analysis of alternative station locations. Finally, the thesis aims to evaluate the feasibility of automating cost collection at the recruiting station level. To accomplish these goals the thesis reviews the Navy's responsibilities, policies, procedures and rationale in determining recruiting resource allocation decisions. The methodology relies on a review of the literature and personal interviews with individuals from Commander, Navy Recruiting Command, Navy Recruiting Areas, selected Navy Recruiting Districts and the Office of the Secretary of Defense's Joint Recruiting Facilities Committee. Two Navy Recruiting Districts are surveyed to collect cost data for a random group of their recruiting stations. These station costs are then matched with the facilities lease and contract cost data from the Army Corps of Engineers' Recruiting Facilities Management Information System and the vehicle cost data from the General Services Administration. An illustrative spreadsheet is constructed containing cost information for stations in NRD San Francisco. The spreadsheet provides cost-per-contract for these stations. Although the thesis was unable to conduct a full cost-effectiveness analysis, it proposes two approaches for future collection and analysis of the necessary cost data.

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I. INTRODUCTION

The "right-sizing" of the Defense Department beginning in the late 1980's and culminating in 1995 has affected the way recruiting commands do business. Since 1991 the military services have significantly reduced the size of their forces and the number of applicants they access, accession requirements dropped from 206,000 to 195,000 between 1991 and 1995 [Ref. 4:p. 17]. The military services are authorized over 21,000 recruiting personnel to carry out their mission from 6,000 leased recruiting facilities at a cost of $104.3 million, FY 97 costs are projected to be $108.2 million [Refs. 4:p. 46 and 24]. The Navy which has continued to reduce its annual accession goals from 80,000 in 1995 to 50,000 in 1997, is staffed with 5,226 of its authorized 5,292 recruiters and has over 1,400 recruiting offices [Refs. 6, 28 and 32].

In the early 1990's initiatives were set in motion by the services to contain recruiting costs and better manage recruiting resources, such as staff reductions and the Defense Department's policy of requiring the services to locate their offices under the same roof whenever possible [Refs. 4 and 25]. Despite the services' efforts to improve management of their recruiting resources, DoD requested increasing amounts from Congress to support the military recruiting mission. For FY 1995 for example, DoD requested $1 billion. This request concerned Congressman Pryor so much that he set in motion a study by the Government Accounting Office, and Congress included Section 632 in the 1996 National Defense Authorization Act, requiring DoD to conduct studies regarding the joint process for determining the location of recruiting stations [Refs. 3:p. 1 and 4:p. 1]. DoD responded to this Congressional concern over the management of recruiting resources by directing the

recruiting services to investigate joint processes for determining optimal recruiting station locations.

Congress, concerned by DoD's request for an increase in recruiting funds while recruiting fewer people, directed a study by the U.S. General Accounting Office (GAO) on the Defense Department's recruiting management policies and operations. Senator David Pryor's guidance to the GAO was to evaluate several issues:

1. The recruiting challenges the services face in the size of the youth market and its propensity to join the military;

2. The services future plans for recruiting staffs and organizations;

3. The services management of their recruiting facilities;

4. And, finally the GAO should make recommendations for cost savings in military recruiting.

The GAO study was conducted between 1993 and 1994. It entailed interviews with officials from DoD's Office of Accession Policy (AP), all services' recruiting commands, the Military Entrance Processing Command (MEPS), the Naval Audit Service and the Congressional Budget Office (CBO). The GAO obtained active duty enlisted production data from all services for 1974-1989. In 1994 GAO submitted its report to Congress along with its recommendations for reducing military recruiting costs. The GAO report "Military Recruiting: More Innovative Approaches Needed," asserted that the services had overstated the potential recruiting challenges they would face in the future [Ref. 4]. Specifically, GAO stated that the number of people in the targeted market of 17-21 year old high school graduates was expected to grow through the year 2000, while recruiting requirements for the services would be steadily dropping. GAO also pointed out that the productivity of recruiters

in certain areas did not justify the costs of maintaining the recruiting offices they occupied. One of GAO's findings indicated that streamlining recruiting offices for supervisors could save the government close to $13 million per year in facility leasing costs without adversely affecting production. Overall, the 1994 GAO study did not support the services' request for additional recruiting funds and personnel in future. GAO's recommendations to Congress were that the Office of the Secretary of Defense (OSD) implement the following policies:

1. Direct the secretaries of the military services to develop a more cost-effective mix of available recruiting resources;

2. Aggressively test ideas to reduce first-term attrition;

3. Continue efforts to streamline current recruiting bureaucracy;

4. Revalidate the recruiting quota system;

5. Encourage the development and expansion ... of new concepts in the management of military recruiting facilities;

6. Routinely incorporate more in-depth cost-benefit analysis in decisions to maintain or establish new recruiting offices;

7. Evaluate the costs and benefits of maintaining offices in less productive areas of the country.

"Military Recruiting: More Innovative Approaches Needed" [Ref. 4]

The consequences of this study were reflected in the National Defense Authorization Act of 1996, in which Congress directed OSD to conduct a "study regarding a joint process for determining [the] location of recruit stations." The study with its attendant report "Recruiting Station & Recruiter Location Methodology," was completed in 1996 by the

System Research and Application (SRA) Corporation in Arlington, Virginia for the Office of the Under Secretary of Defense for Personnel and Readiness (OUSD (P&R)) [Ref. 3].

This study analyzed all aspects of DoD's recruiting operations and presented possible modifications to DoD's recruiting resource methodologies (i.e., the allocation of recruiters and facilities). Additionally, the report proposed a methodology that would standardize the services' processes for analyzing decisions on the location or relocation of recruiters and recruiting stations using *station cost efficiency*. The methodology measured recruit station efficiency using cost per contract. The development of this "Recruiting Office Relative Cost per Contract Tracking Methodology" as a measure of efficiency, was based on the Joint Service Recruiting Task Force meetings of May and July 1996.

The Joint Task Force meetings were intended to generate methods for ensuring that recruiting resource management decisions are based on jointly conducted research. With this goal in mind the Joint Task Force recommended that DoD conduct multi-service analyses to develop mathematical models to predict "the efficiency of new recruiting stations." It also directed the services to determine the types of cost data useful in measuring recruit station cost effectiveness, and to determine the feasibility of automating the collection of such relevant data at the recruit station level [Ref. 3]. Consequently, the Army agreed to conduct a "proof-of-concept" study of this "Recruiting Office Relative Cost per Contract Tracking Methodology." In January 1997, the Army submitted a memorandum to the Joint Task Force addressing the study's progress [Ref. 1]. The Joint Task Force has not provided feedback on the study results or further guidance in the matter [Ref. 5].

A. ARMY'S "PROOF OF CONCEPT" STUDY

The Army's study tested the feasibility of collecting cost data at the recruit station level and determined the effort entailed in doing so. Using FY 1995 production, recruiter, location and cost data from multiple sources, the research developed a spreadsheet to analyze more than 1,100 Army recruiting stations. These stations were rank-ordered by enlisted contract cost effectiveness as defined by the methodology mentioned above. The results of the proof-of-concept study indicate the potential of this methodology to be used in a longitudinal analysis of recruit station costs. The methodology captures direct, indirect and overhead station costs, aggregates the costs and rank orders the stations by cost per contract. After categorizing the stations as rural, urban or metropolitan using MapInfo software, 'costly' stations in each category are identified for further analysis or for tracking over time.

Unfortunately, the methodology does not provide a 'snap shot' means of determining or predicting the cost effectiveness of existing stations. According to MAJ William McKinnon, of the U.S. Army Recruiting Command, who conducted the concept study, this cost per contract analysis is not an accurate measure of Army station cost effectiveness because the large number of fixed costs at the stations lead to significant cost per contract changes as production varies over time. Therefore, a station can appear to be very cost effective for one period (quarter or year) and then be 'cost ineffective' the next period, depending on the change in the productivity of the station's recruiter(s) [Ref. 5].

B. DEPARTMENT OF DEFENSE PROJECT

As part of this ongoing effort to develop a joint process for determining station location, DoD funded research at the Naval Postgraduate School (NPS) to develop methods for evaluating station cost effectiveness and optimizing recruit station location decisions. The goal of the NPS project is to develop a decision support system (DSS) to "...link the economic cost, production and optimization models to policy decisions" [Ref. 2].

One of the two phases of this two-year NPS project is the development of production and station cost models. To develop the station cost model an economic analysis, using relevant station costs and station characteristics will be conducted. This analysis will require the identification of relevant costs, and determining the location of various cost elements and the feasibility of collecting the cost elements. A secondary analysis of the feasibility of automating the cost collection at the recruit station level will be necessary to determine the potential for updating and using this data in future recruit station location decisions by Battalion, District and Squadron commanders.

C. ORGANIZATION OF THIS STUDY

The goal of this thesis is to explore the identification of cost data for Navy Recruiting Stations (NRS). Literature reviews on the subject will be conducted and key officials involved in Navy recruiting will be interviewed. The thesis will identify and collect the relevant costs of recruiting stations that will be useful in analyzing relative station cost effectiveness, and particularly in deciding whether to close or consolidate existing stations, and where to open new stations. Unlike the Army's "Proof-of-Concept" study this thesis will consider only those costs which are station-specific and which are changed by location

decisions. Costs which are not a function of station location will not be used. This thesis will focus only on the Navy's enlisted active duty recruiting and exclude Navy reserve recruiting. The thesis will conduct an exploratory cost analysis of selected Navy Recruiting Stations (NRS). It will aggregate relevant station costs and accession data and it will categorize the stations in order to analyze how these costs and the cost-per-accession vary by location. The study will also evaluate the practicality of automating this cost data collection at the NRS level.

Chapter II will discuss the background of Congress's direction to DoD to conduct research for improving recruiting operations and facilities management. It will also describe Navy recruiting funding, organizational structures and Commander, Navy Recruiting Command (CNRC) policies which are relevant to this project. There will be a discussion on the Army Corps of Engineers (COE)'s management of recruiting facilities leases through the Recruiting Facilities Management Information System (RFMIS). This chapter will include background on DoD's and specifically DoN's efforts to improve the management of recruiting facilities through the development of a Decision Support System (DSS). Chapter III will summarize related studies and research on recruit station cost effectiveness. Chapter IV will describe the methodology of this thesis. It will identify the relevant cost data and the agency or command responsible for maintaining it and will explain how the data was collected. This chapter will also include a station-level cost data file of selected recruiting stations from NRD San Francisco to be used in follow-on research and an exploratory cost analysis of these stations.

Chapter V will review the results and address the effort entailed in identifying and collecting station cost data. It will also evaluate the feasibility of automating the data collection at the NRS level to determine the potential of updating and using this data in future station location decisions by NRD commanders. Two alternative methods for expanding the cost data elements to be used in evaluating station cost effectiveness and for follow-on research will be discussed.

II. BACKGROUND AND PROBLEM STATEMENT

A. BACKGROUND

1. Recruiting in the Armed Forces

The success the Armed Forces enjoyed in recruiting the required number and quality of volunteers came to an end six years after the creation of the All Volunteer Force (AVF). By 1979, the services were achieving only 90 percent of their total goal with more than 35 percent of the recruits scoring in the lower half of the services' quality test. This represented a significant decline in both the number and the quality of the services' volunteers [Ref. 4].

2. Quality in Recruiting

Quality is a function of volunteers' level of education and their scores on the Armed Forces Qualification Test (AFQT), which is a subtest of the Armed Services Vocational Aptitude Battery (ASVAB). Quality or "A-Cell" volunteers' have a high school diploma and score in the top three of the six AFQT categories: I, II, IIIA, IIIB, IV and V, they are considered the ideal candidates for military enlistment. The rate of "A-Cell" accessions, is tracked by the services as a measure of their ability to maximize recruiting resources in attaining their goals. CNRC for example, tracks both total "A-Cell" contract accessions and cost per "A-Cell" contract for each of the four Area commands [Ref. 28]. Technological advancements in virtually all military occupation specialties have made it increasingly important that more recruits come from this "A-Cell" category of applicants. It is not surprising then that in FY 97, the measure of recruiting success for the Navy will be its ability to fill critical Navy fields with quality accessions [Ref. 6].

The downturn in the number and the quality of volunteers being accessed into the military in the late seventies led to Congressional action aimed at increasing both the number and quality of accessions [Ref. 4]. This was accomplished by establishing more stringent acceptance standards for volunteers, by increasing funding for the recruiting mission and by raising military pay to be more attractive to quality applicants. The increase in recruiting budgets led to more incentive programs for recruits as well as more national advertising. The latter has been identified as a key factor in attracting a greater number of quality applicants [Ref. 4:p.13]. By 1986, the services were meeting or exceeding their accession and quality goals, with 64 percent of applicants being processed for enlistment scoring in the top 50th percentile and 92 percent with high school diplomas. This positive impact of additional funds for recruiting particularly in advertising, on the services' recruiting mission is well documented [Refs. 4:pp.15 and 27 and 6]. Consequently, when faced with the perceived challenges of reaching the right number and quality of applicants following the downsizing of the recruiting force of the late eighties and early nineties, the services sought to increase funding for recruiting to meet the increased mission requirements.

The services' request for additional recruiting funding generated congressional interest in how the services managed and operated their recruiting commands. This led to studies by GAO, the RAND Corporation, OSD, and the individual services on different aspects of military recruiting operations [Refs. 2, 3 and 4]. One of the issues raised by Congress as a result of these studies is the redundancy of administrative processes performed by each of the services. The general view is that if these functions were consolidated it would generate a potential cost savings to the government [Ref. 4]. The individual services have

studied the possible consolidation of various administrative functions as well as that of their respective management layers under one command or at least at one location. However, consolidation of recruiting organizations was rejected by OSD in FY 1990 [Ref. 4:p.73]. A more recent effort at consolidation is OSD's direction to the services to develop a joint process for recruiting station location decisions made by the recruiting commands. A detailed discussion of these studies will be presented in Chapter III.

B. RECRUITING IN THE NAVY

1. Policies

The Navy's policy is to have sufficient recruiting resources optimally distributed to accomplish their recruiting mission [Refs. 3:p.2 and 12]. Recruiting resources include recruiting stations, recruiters, and advertising dollars. Although, the primary focus of CNRC's policy is to achieve recruiting and shipping goals, the ideal would be to meet these goals at minimum costs [Ref. 3:p.12]. According to the GAO report, costs and recruiter quality of life are secondary issues to Navy recruiting commanders in the development of the Navy's recruiting policy and in the deployment of recruiting resources.

The Navy's facilities management policy is to place its stations close to the target market and in locations where they have had past production success [Ref. 12]. In realigning stations the Navy uses both information from the field as well as CNRC market analyses and COE personnel who evaluate the proposed facility realignments for their effect on production. In this analysis cost considerations are secondary to mission accomplishment [Refs. 3:pp.2 and 37 and 12]. In fact, the Navy does not take costs into account at all in

these analyses. Cost issues in recruit facilities management are addressed in the Recruiting Facilities Program (RFP) section of this thesis.

The recruiter assignment policy is again to maximize production by optimally assigning recruiters to market locations. Optimization models developed at CNRC are used to assign recruiters to Areas and to make assignment ***recommendations*** for staffing at the NRDs and stations [Ref. 3]. Qualifications of recruiters such as experience in recruiting, recruiter rank and recruiter seniority on board the command all play a part in the assignment of a recruiter to an individual NRS.

The bulk of advertising dollars received for recruiting are managed at the CNRC level which is in charge of the national advertising campaign that includes the use of television, radio and direct mail outs [Refs. 13, 15 and 16]. The NRDs receive funds for their Leads Tracking Center managed by the Leads Support Officer (LSO), to pay for local ads placed by the recruiting stations and direct mail outs in the local markets [Ref. 13]. Because national advertising is believed to have a significant impact on the target market's desire to enlist the services dedicate a significant portion of their budget to this function [Refs. 3 and 4:p. 15]. In FY 97 the Navy's budget for recruiting operations of $18.1 million, includes $2.7 million for advertising expenses, which is almost 15 percent of the total [Ref. 28]. The goal of local advertising is quite different from national advertising in that it is aimed at influencing the parents, coaches, teachers and leaders of a local community. The benefits derived from local level advertising are considered as significant and long lasting as those of national level advertising [Refs. 3 and 13].

Like facilities costs, quality of life issues for recruiters including safety in the work place are addressed through the Recruiting Facility Program (RFP) review process discussed in Section C of this chapter.

2. Organizational Structure

The Navy's recruiting organization has five management layers, which is mirrored by the other services. Table 2.1 describes the organizational structure of the four services. Figure 2.1 is a map of the geographic distribution of these offices.

Echelon	Air Force	Navy	Marine Corps	Army
I	RS HQ/CC	CNRC	MCR	USAREC
II	Groups	Areas	Regions	Brigades
III	Squadrons	Districts	Districts	Battalions
IV	Flights	Zones	Stations	Companies
V		Stations	Substations	Stations
VI	Recruiters	Recruiters	Recruiters	Recruiters

Table 2.1 Military Recruiting Organizational Hierarchies
Source: SRA Study

For the Navy these levels are:

1. The national headquarters Commander, Navy Recruiting Command (CNRC), located in Arlington, Virginia;
2. The four Area offices;
3. 31 Recruiting Districts (NRD);
4. 190 zones; and,
5. 1,414 full time and part time recruiting stations (NRS).

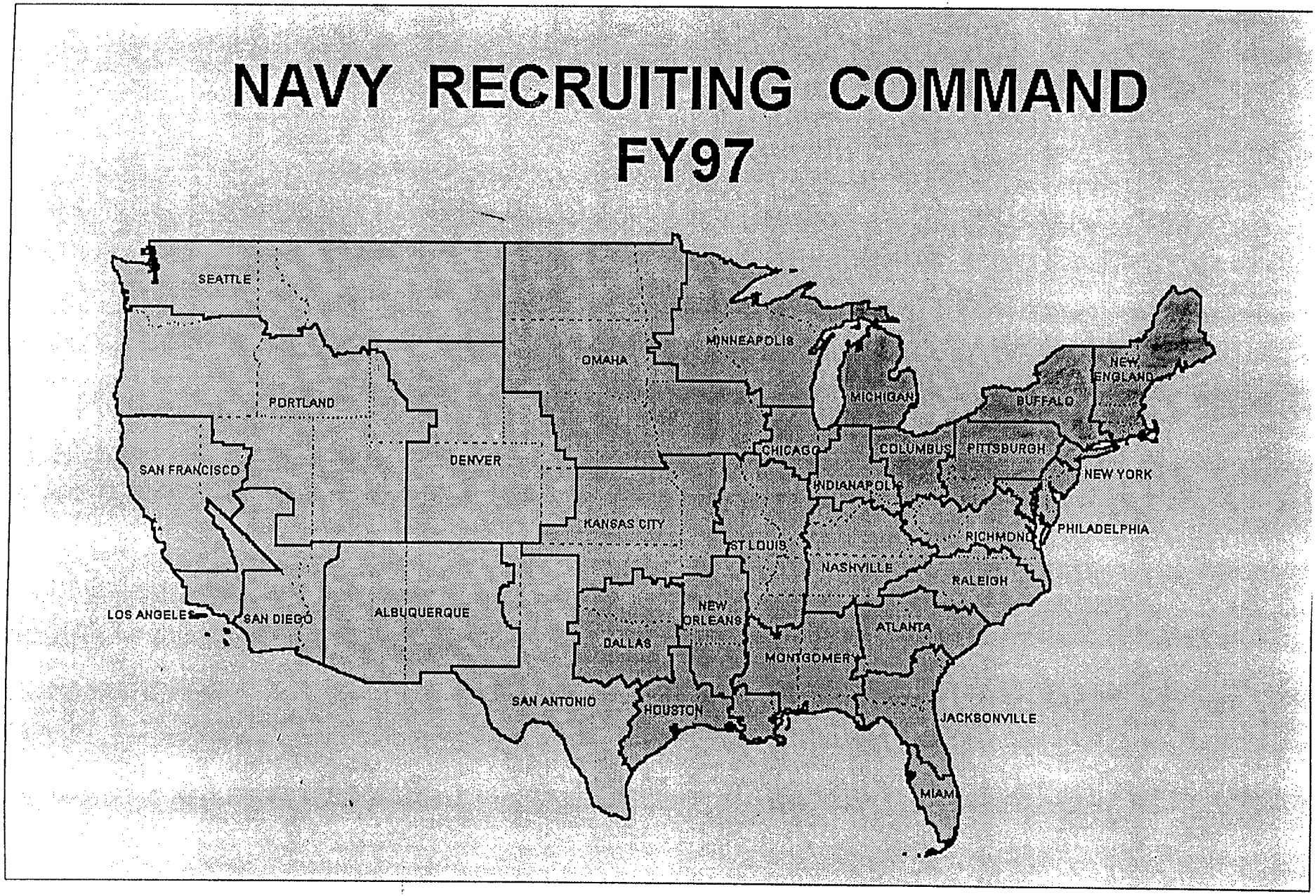

Figure 2.1 Map of Navy Recruiting Areas and Districts
Source: CNRC

Management of recruiting resources and support is provided in the first three echelons, field recruiting functions such as canvassing, testing and interviewing begin at the NRD level for officer candidates and special enlisted programs such as nuclear power ratings. Enlisted field recruiting activities begin at the recruiting zone level. Appendix A provides a listing of NRAs and related NRDs.

CNRC is headed by a one-star admiral who is responsible for the "...worldwide recruiting of men and women for enlisted, officer candidate and officer status in the Regular and Reserve components of the Navy," [Ref. 4:p.59]. CNRC is responsible for policy development and dissemination, national level marketing and advertising and guidance on these matters and the allocation of resources and management of recruiting support personnel and resources.

The four Area offices, which is the next management layer, are located across the nation and coordinate the activities of the 31 NRDs. Each Area office is headed by an 0-6 and is staffed with support personnel expert in marketing, finance and recruiting policies. Area commanders allocate resources to their Districts and are also responsible for providing "...guidance, training and assistance to NRD commanding officers..." [Ref. 4:p. 60], when planning their marketing and recruiting strategies for their Districts.

The 31 Navy Recruiting Districts are located in the continental US but are also responsible for recruiting in Hawaii, Guam, Puerto Rico, London and Germany. The NRDs are headed by 0-5s and provide the same guidance and training to their recruiting stations that they receive from the Area offices. NRD staffs include a supply officer for financial

resource oversight, and a "Leads Tracking Center" headed by an LSO, for local marketing activities.

The recruiting zones are an organizational layer between the District and stations, Zones are composed of several recruiting offices and up to 30 recruiters. Zones are headed by a Master Chief Petty Officer (E-9)or Senior Chief Petty Officer (E-8), who are usually Career Recruiter Force (CRF) personnel whose careers are dedicated solely to recruiting. Zone supervisors can work out of either one of the larger NRS or a supervisory office in the field. In either case, the Zone supervisor spends most of his or her time on the road visiting the NRSs and recruiters under his or her responsibility. [Refs. 3 and 17]

The sole function of a NRS is to provide a place from which recruiters can canvass for new recruits, administer aptitude screening tests, assess an applicant's potential, process the necessary documentation for new recruits, complete administrative tasks, and provide publicity material to the area schools and neighborhoods [Ref. 3]. The initial location and number of recruiting stations for each NRD, are determined by the CNRC marketing department in conjunction with the COE using existing linear regression models [Refs. 9:p.1 and 12]. However, future realignment decisions are made by the NRD Commanding Officer (CO) through an established facilities management process with the COE and the JRFC [Refs. 3 and 13]. This process is described in Section C and illustrated in Appendix B.

3. Recruiting Resources Management

The Navy's Recruiting mission is funded from the Operation and Maintenance Navy (O&M,N) appropriations account and falls under Budget Activity (BA) Three, Training and Recruiting. The Navy's financial manager and comptroller (ASN (FM&C)) allocates the

appropriations to the office of the Chief of Naval Operation (CNO) through which budget authority for all O&M, N appropriations flow [Ref. 26]. The Chief of Naval Personnel (CNP), who is CNRC's major claimant issues an Operating Budget to CNRC for recruiting activities and advertising.

The Navy's recruiting budget pays for all recruiting activities which are divided into two categories *recruiting support* and *national and local level advertising*. Recruiting support includes:

- facilities management for CNRC and the NRAs;
- vehicles leased from GSA;
- communications: field telephone lines[1] and all set up costs;
- administrative and supply support;
- equipment (ADP, furniture, R-Tools components);
- some Military Entrance Processing (MEPS) center costs[2];and,
- applicant costs[3].

Recruiting facilities costs are paid with funds from the Army's Budget Office. These funds are managed by the Army's COE who provides the services with funding targets, which are the equivalent of Operating Targets (OPTARS) to manage their facilities. These dollar amounts become the Navy's annual Recruiting Facilities Maintenance budget. The following

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[1]Phone lines are assigned one per recruiter and one for the office fax.

[2]Service classifiers and support personnel in a MEPS process applicants.

[3]For travel to and from MEPS for medical exams, processing and final shipping to the RTC.

list, which is not all inclusive represents the most common costs in managing recruiting facilities:

- lease costs and maintenance contract costs (janitorial services, security);
- upgrades to facilities: carpeting, painting, additional walls or partitions;
- expansions to stations (due to an increase in recruiters assigned);
- relocations (due to collocation requirements or expansions which cannot be met in existing space);and,
- forced relocations (from acts of God or lessors who will not or cannot renew lease or continue to provide utilities at station).

The RFMIS Users Handbook [Ref. 18], provides more detailed maintenance items

The Navy uses optimization models to assign territory to NRS and then to assign recruiters to stations. The models incorporate an analysis of optimal distances from the target market and the size of the market which affects the number of recruiters assigned as well as the size of the stations. Production factors drive many of the models, with each variable having a factor or weight assigned in contributing to production. For example, the production of a particular station can be a function of the driving distance of the NRS to the 'centroid' or the center point of a zip code of a target market or recruiting zone [Refs. 3 and 12]. Recruiter assignment is based on past production success in a particular area as well as the size of the target market. The Navy accesses past production data using Recruit Market Information Systems (RMIS), a data base managed by the Defense Manpower Data Center (DMDC), DMDC's monthly USAREC reports and internal monthly production reports. The All Service Accession Data (ASAD) report is used in combination with STEAM data by the

Districts to identify shifts in the markets, better allocate recruiters and to evaluate current station locations [Ref. 30].

C. RECRUITING FACILITIES MANAGEMENT

DoD currently operates over 6,000 full time and part time recruiting stations for all the military services [Refs. 4 and 32]. Maintaining these leased facilities cost the US government $104.3 million in FY 96. The FY 97 budget is projected at $108.2 million [Ref. 24]. DoD's policy is to accomplish the recruiting mission through optimal use and funding of recruiting resources which include recruiting stations, [Refs. 3 and 4]. It does this by closely managing the acquisition and maintenance of recruiting facilities through the Recruiting Facilities Program (RFP) which is run by the COE with the guidance of the Joint Recruiting Facilities Committee (JRFC).

The JRFC is a multi-service committee of senior officers and executives from OSD, the military services and the COE Real Estate Division. Their mission is to provide policy guidance and broad upper level management of the Recruiting Facilities Program (RFP), a $100 million management program. For example, the JRFC is involved in developing the annual recruiting facilities budget to be allocated to the services [Refs. 3:p. 20 and 25]. A major goal of the JRFC is to ensure cost-effectiveness in the RFP by eliminating or reducing costly facilities and inefficient use of leased space [Ref. 4:p.76]. Over the years their efforts combined with the military drawdown have reduced the number of facilities and costs under the RFP. For example, between 1989 and 1997 costs for managing these facilities dropped from $118 million to less than $104 million; also, today's 6,000 facilities represent 75 percent of the number managed in the late 1980's [Refs. 4:p.44 and 24].

The Army Corps of Engineers (COE) is responsible for the management of field recruiting facilities, which includes NRD's and NRS and **excludes** CNRC and the four NRAs. The COE's role entails site evaluation and selection and lease and contract negotiations, payment and oversight. The Navy's recruiting headquarters CNRC, and the four Area commands are managed and funded by CNRC [Refs. 12 and 13] with their in-house COE representative.

1. Recruiting Facilities Program

The RFP is designed to ensure that the military services are provided with quality recruiting offices. As the Executive Agent for RFP, the COE is responsible for the acquisition/leasing and maintenance of facilities to support the military services' recruiting mission. Of particular importance in managing the RFP is COE's direction from DoD to "...establish and execute a program that reduces costs of rent through the elimination of excess space" [Ref. 4:p. 44].

The RFP includes an annual joint planning process, and three subprograms designed to optimize facility resources, these are the ***Maintenance Program*** designed for the field recruiting activities' use to requests upgrades, new offices, expansions and relocations; the ***Existing Program*** for use by the Real Estate Specialist at COE for lease renewals, forced relocations, emergency repairs and miscellaneous repairs; and, the ***Cost and Space Reduction Program*** used by the JRFC to identify facilities costing over $30/square foot or exceeding authorized space by 50 percent. Policy guidance and strategic management for the entire program is provided by the JRFC. To ensure the RFP process is responsive to all services'

needs the JRFC has top level representatives from the four miliary services, the COE and OSD.

The COE in conjunction with the JRFC, manages the Recruiting Facilities Program (RFP) using the RFMIS data base and the annual Facilities Maintenance Plan process. The Plan, which is developed from field input for facilities actions, is reviewed by the COE and JRFC throughout the fiscal year and approved by Headquarters, Army Corps of Engineers (HQUSACE). Figure 2.2 illustrates the annual cycle of this process.

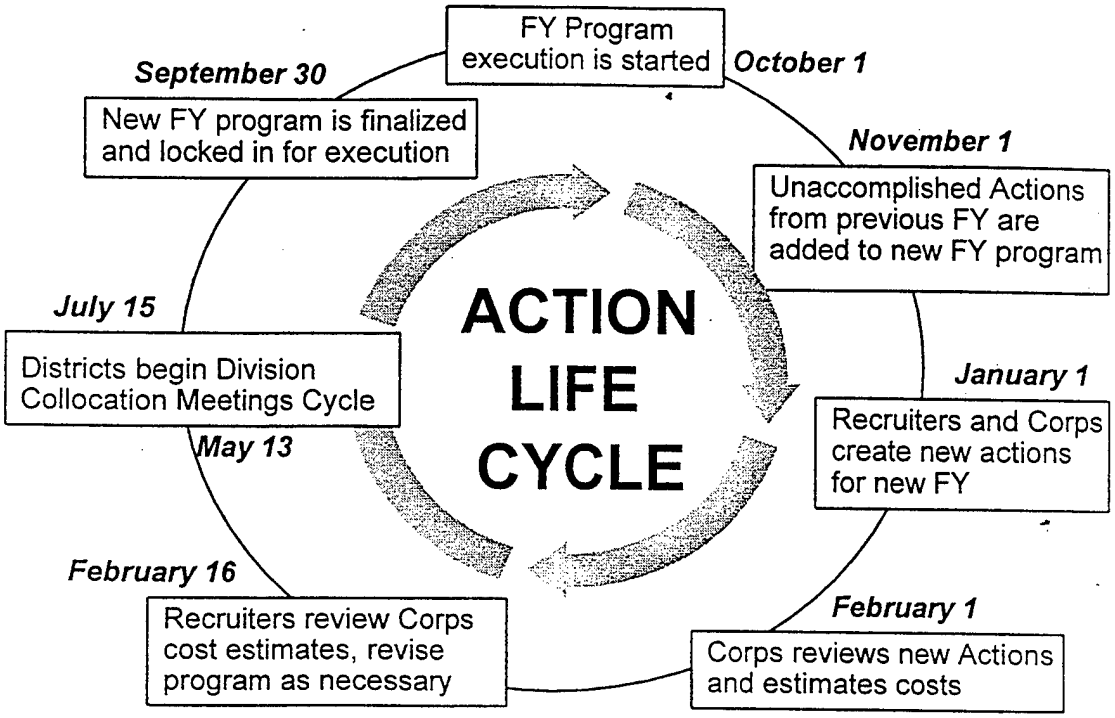

Figure 2.2 RFP Action Life Cycle
Source: RFMIS End Users Training Handbook

Beginning in January and February maintenance requests for the next fiscal year are submitted via RFMIS by field commands for review by their service recruiting chain of command. For example, submissions for the FY 99 Plan are provided by the Districts to Area offices and forwarded to CNRC between January and February, 1998. Once submitted into RFMIS the 18 COE Districts cost out the proposed actions submitted to them by CNRC for the FY 99 Facilities Maintenance Plan. Additional meetings with JRFC, and Collocation meetings held throughout the year by COE Districts with key recruiting personnel to discuss progress of the Plan under execution and the proposed Plan, eventually lead to a finalized Plan in August 1998 for submission to HQUSACE. Once approved and "date-stamped" by HQUSACE, the official Plan is updated in September and October with any changes to real estate costs affecting the services' maintenance budget and with any unplanned or unfinished actions from the previous year. The final Plan is then sent to the 18 COE Districts in November 1998 for execution in FY 99. Appendix B is the annual schedule of the Facilities Maintenance Plan cycle. [Refs. 3:p.26 and 23]

The HQUSACE develops the Recruiting Facilities Program budget in conjunction with the JRFC, which uses RFMIS to analyze and prioritize service facilities maintenance requests. The budget is submitted for review and final approval through the Army's Planning Programming Budgeting System (PPBS). Execution of the RFP for a FY is funded through the COE Districts by the Army's budget office. The services are provided with funding guidance also referred to as allotted funds, by the JRFC. Figure 2.3 is a schematic of the process. [Refs. 3:p.21]

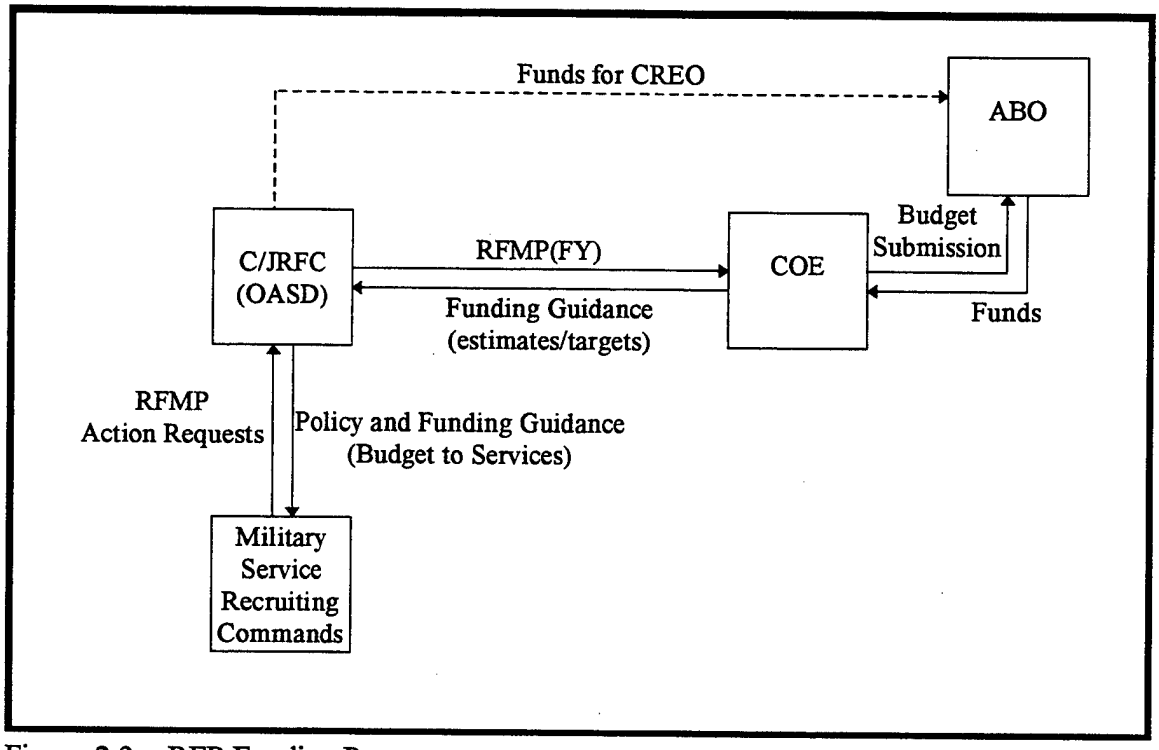

Figure 2.3 RFP Funding Process.

The amount allotted to each service is reflective of a service's portion of miliary recruiters assigned and becomes the 'soft' operating budget the services must work with when making submissions to the Plan [Refs. 18:p. J.10 and 23]. When services make requests for changes to the Plan or are in the initial stages of developing the Plan they must prioritize their actions to ensure their most important ones are accomplished without exceeding these 'soft' dollar targets [Refs. 3:p.22 and 14]. Services budget for these actions by using lease cost and action cost estimates made available through RFMIS by the COE Districts. These 'budgets' are considered soft because they do not deplete the Service Recruiting Commands' Operating Budgets (O&M) and are not competed for by their other recruiting support functions or advertising [Refs. 13 and 24].

These 'soft dollars' that NRD COs work with are an important factor in determining the cost data useful in measuring new recruiting station cost effectiveness, as well as in evaluating a recruiting Commander's decision process in station realignments. When relocating or opening a new station the services use their O&M,N funds for moving expenses, the costs of furniture and communications (fax, phone and computer phone lines, etc.). All other costs are charged to their RFP budget, the 'soft dollars.' In addition to the lease and contract costs, they include the following one time costs [Ref. 24]:

1. Administrative cost for appraisals and negotiations; and,
2. Build out costs for restructuring the spaces to meet service needs.

Because the expenses of relocating and leasing a station are not fully incurred by the decision maker, any model developed to help the NRD COs predict the "efficiency of new recruiting stations" will have to capture and quantify this condition.

A key element in managing the RFP is the availability of lease and contract cost data for the services' existing and proposed actions. As mentioned earlier this information is made available by the COE Districts to all individuals involved in the RFP. This cost and status data is found in the Recruiting Facilities Maintenance Information System (RFMIS), the official source of data for review and reporting on the operations of the RFP. This data base is used for management, tracking and budgeting purposes by COE Districts, HQUSACE, the services recruiting commands, JRFC and OSD.[Ref. 18:p.1.2]

2. Recruiting Facilities Maintenance Information System(RFMIS)

The JRFC uses RFMIS extensively for planning, execution and management of the facilities program. This committee also uses RFMIS to electronically monitor the program

and the types of maintenance requests submitted for the annual Plan in order to develop the Facilities Maintenance budget for the services. RFMIS is an interactive system used by the COE and the services' recruiting commands to plan, prioritize and monitor their fiscal year RFP maintenance action requests. Requests such as new carpeting, painting, upgrades to existing stations, new security systems and relocations are entered into the RFMIS database by the field or by third echelon commanders, NRDs for the Navy. These proposed actions are accessible to the JRFC, all COE Districts and the recruiting chain of command for each service. COE Districts update these requests with cost estimates also available through RFMIS [Refs. 3:p. 28 and 17]. The COE uses RFMIS for the Cost and Space Reduction Program to identify and conduct a cost analysis of recruiting stations with excess space and costly leases.

The RFMIS system is available for real time viewing, report generation, data input and for updating information on recruiting stations (i.e., lease costs, size, contract costs), recruiter assignments and vehicles and the status of action requests [Refs. 3:p. 23 and 22]. Almost all recruiting facilities program related transactions are done and tracked through RFMIS. According to the RFMIS User's Handbook, recruiting commands, beginning at the third echelon level up (refer to Table 2.1) and the COE Districts use RFMIS to create the initial RFP Plan for the fiscal year, which includes the prioritized actions and their estimated costs as well as other pertinent data on them. After approval from HQUSACE the recruiting commands' RFP Plan, which the COE Districts take action on, is posted on RFMIS. Throughout the year the COE Districts update RFMIS with the status of Plan actions as well

as changes in the value of real estate, and therefore leases, affecting the recruiting services RFP budget [Refs. 3:p. 31 and 14].

The information uploaded into the system is available to everyone at all echelon levels. At some levels it is available as read-only files or for report generation only, while at others it allows for data input and updates. The RFMIS database contains leasing and contract cost information in addition to data on recruiter and vehicle assignments; it also provides a myriad of 'canned' and tailored reports on this information. See Appendix C for samples of RFMIS reports and outputs. The following recruit station cost information is available through RFMIS:

- RFP actions, costs and status towards completion;
- recruiting station size and type;
- recruiting station lease and contract costs, utilities costs;
- recruiters assigned/authorized;
- vehicles assigned/authorized; and,
- vehicle monthly/annual lease costs by recruiting station.

The RFMIS data base is extensive and holds current facility cost information on more than 6,000 recruiting stations world wide. It represents the only comprehensive, automated and accurate source of historical cost information for the military services' recruiting mission. Unfortunately, a large number of costs incurred by the services in using their recruiting resources are not available on RFMIS and are not standard across the services. Interviews with CNRC's Comptroller and the Navy's four Area Budget Officers indicated that many of these costs are available only on a very limited basis, such as communications costs which

are aggregated at the NRD level, so that individual station costs cannot be determined. Other cost elements are a function of the NRS's location, are difficult to quantify and therefore are unavailable. An example of the latter costs are the impact of high crime areas and vehicle vandalism on total station costs, as well as the additional administrative costs of running one person stations or remote recruiting stations [Refs. 19 - 22]. Despite this, RFMIS will be an important data source in locating some of the relevant cost data elements used in NRS realignments and in developing a multi-service model for predicting recruit station cost effectiveness.

D. ISSUES IN REALIGNING RECRUITING STATIONS

For all services the initial allocation of resources involves the efficient and effective deployment of recruiting stations and personnel into the market to carry out the service's recruiting strategy. Mission requirements set the numbers to be accessed into the military , the recruiting personnel authorized to carry out the mission and determine the strategy. Demographic and market data are used in models by the services recruiting headquarters to determine the most ideal way to maximize their exposure in the market [Ref. 3:p.18]. The models used with input from field personnel assists the service recruiting headquarters in determining:

- how to break the recruitable market into zones;[4]
- the number and location of recruiting stations in or close to the market;

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[4]Zones can be a collection or group of zip codes, city blocks or areas by square miles which a service selects. Each service zones the market differently.

- the assignment of zones to recruiting stations; and
- the allocation of recruiters to stations.

Since mission requirements change often and the recruitable market shifts with changes in the economy, this allocation process has to be ongoing. For example, in 1994 the Army closed down a significant number of their "stand-alone" offices and reduced personnel in light of reduced mission requirements which dropped from 206,000 in 1993 to 189,000 in 1994 . Unfortunately, this led to problems in meeting their recruiting goals in 1995 and 1996 when mission requirements increased. They have adjusted to this by gradually increasing the number of stand alone stations which will be less costly for them to shut down, but more costly for the COE to maintain. [Refs. 3:p.26 and 25]

The services continually reevaluate their position in the market in order to meet their objectives and will expand, relocate and close recruiting stations accordingly. The RFP, with its annual facilities maintenance plan allows the services to effectively realign their resources. The facilities maintenance plan ensures that cost and production criteria are considered in a balanced ratio of 60 percent and 40 percent, respectively, through the involvement of field recruiters in the leasing process [Ref. 3:p.34].

1. The NRS Realignment Process

The Navy's optimization models for allocating recruiting resources developed by the CNRC marketing division, determine the most cost effective mix of resources including

advertising dollars. The models incorporate the following variables:

- the population of 17-21 year old males in a zip code;
- the population density in a zip code;
- past production success by all services in recruitable market; and,
- the distance in miles from existing or proposed locations to the centroid.[5]

The models are used in conjunction with input from field recruiters and managers whose experience is crucial in evaluating the market, however these are production optimization models which can not take station costs or affordability into account. [Refs. 3:p. 37 and 53 and 12]

The Navy reviews their resource allocation annually and weighs changing demographics, changes in mission requirements and recruiter authorizations to realign their stations and field personnel. [Ref. 3:p. 37]. Shifts in population are identified at the field level by the Chief Recruiters, Enlisted Production Officers (EPO) usually Lieutenants (0-3s) who manage the enlisted recruiting program and the Leads Support Officer (LSO) the local market analyst. These individuals are close to the market and provide decision makers with early and accurate asses of market shifts, for example the opening or closures of high schools, new communities sprouting in previously undeveloped areas or a new, unidentified market pocket. They use a combination of personal experience and data base reports to identify areas in the market untapped by the Navy, and resource shortfalls [Ref. 29]. They use the following

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[5] Centroids are center points in a zone, specifically the center of a zip code for the Navy.

sources of information to make their recommendations to the NRD Commanding Officers (CO):

- Standardized Territory Evaluation, Analysis Management (STEAM) which identifies eligible applicants;
- DoD All Service Accession Data (ASAD), a quarterly report of all past accessions by service and by recruiting zones;
- USAREC's past production reports maintained by DMDC; and,
- DMDC's Zip Code Market Analysis files.

Navy quotas are assigned to NRS's based on station manning and the forecasted production of the station based on the market. Goaling, like the allocation of resources is determined using models. Quota or goals are determined at the national level using regression models which use such variables as the number of on-board recruiters, unemployment levels, and the size of the target market. Because the accuracy of the forecasting models weakens as it is applied to narrower areas of responsibility like the NRDs, Areas allocate the recruiting goal to Districts which then apply the goals to stations based on recruiter assignments and projected market production [Refs. 3:p. 51 and 30:p. 6]. If the goaling for a station is not commensurate with the resources assigned, the zone supervisors and Chief Recruiters will inform the NRD chain of command of a need to realign stations or strengthen personnel and resources to meet the new goals [Ref. 30].

Shifts in the market, mission requirements and personnel assigned will usually require a realignment of recruiting resources. The annual cycle for developing the Facilities Maintenance Plan under the RFP allows the services to request a wide range of actions to maintain their stations and expand into new territory. The actions are posted on RFMIS by

NRD level personnel for costing by COE Districts and review by the NRAs, CNRC and JRFC who will develop the maintenance budget using RFMIS data. Services can request upgrades to their stations, new offices, expansions or relocations [Refs. 3:p.27 and 14]. The NRD, CO will usually approve realignment recommendations from the EPO, CR and the LSO for the Plan. As mentioned earlier, they make use of personal experience and DoD market and production reports to gauge the shifts in the market. A drawback to this process is the delay between recognized market shifts and changes in mission requirements and the start of realignment actions to meet these changes in the recruiting environment. The time lag can sometimes be as much as a year [Ref. 30].

2. Cost Factors in NRS Realignment Decisions

The services must plan for realignment costs in their O&M budget and in their Maintenance budget. In a relocation the following categories of costs arise and are charged against one of the budgets, as shown in Table 2.2:

BUDGET	Recruiting Facilities Maintenance Program	O & M, N
COST CATEGORIES	initial administrative and outbuilding costs	moving and communications costs
	new lease, contract, and maintenance costs	vehicle mileage differential which leads to a change in recurring costs
	beginning in 1998, excess space used (>26 percent)	

Table 2.2 Relocation Costs and Budgets Charged

When all services in a collocated station agree to the relocation the costs are shared, except for the lease cost which is a function of the square footage. Expansions, paintings and general upkeep of the spaces also represent a cost to the service's RFP budget, with collocated service stations the costs are shared and represent a smaller portion of each service's RFP budget. Several facilities maintenance costs are affected by the decision to close, open, or relocate a station, they include:

- lease cost and contract cost; and,
- management or overhead costs if increasing or decreasing the number of collocated offices; and,
- initial set up or outbuilding costs for partitions, walls and tailoring spaces; and,
- minimum set up and take down costs imposed by contractors for painting, carpet replacements or cleaning.

Collocation represents a significant cost saving measure both in the specific costs saved from such a set up and from the flexibility to bargain for better lease and contract costs. [Refs. 12 and 25]

E. PROBLEM STATEMENT

As mentioned earlier, studies and baseline reviews of the military services' recruiting operations were directed by OSD to appease Congress's concern over the efficient use of recruiting resources. These studies recommended streamlining operations, consolidating administrative functions and using a more effective mix of recruiting resources to contain recruiting costs. Some of these recommendations were followed up and led to reductions in recruiting staffs and opened up discussions at OSD of consolidating some functions across services. For example , the Navy reduced its recruiting management organization in 1989

to four NRAs from six and to 31 NRDs from 41, reducing its manning by almost 17 percent, [Ref. 4:p. 35]. More recently CNRC will begin phasing out its four recruiting Areas, one of its management layers, which was one of the recommendations of the 1994 GAO study to "...streamline the recruiting bureaucracy, eliminating layers where possible..." [Refs.4:p. 53 and 20].

In addition to cost effectiveness, OSD has also made jointness a requirement in making recruiting operations more efficient. Specifically, the consolidation of such recruiting functions as advertising, leasing and managing vehicles from GSA, telecommunication services and ADP support, functions which are redundant across the services was evaluated [Ref. 4:p. 4]. Following recommendations made at a joint task force discussion on these issues in May and July of 1996, OSD directed the services to investigate methods for making the commanders' realignment decisions a more cost effective and joint process [Ref. 3:p .63].

A more specific effort at reducing facilities costs and making recruiting operations more 'joint' were the Philadelphia and Chicago Pilot Projects of 1994 and 1996, respectively. Both projects were designed to investigate the potential facilities cost savings by increasing the collocation of one- and two-service recruiting stations [Ref. 4:p. 43]. According to the COE, Louisville District report of February 1997, the Chicago Project annual facilities lease cost savings were in excess of $200,000 from consolidating all the Chicago area one- and two-service recruiting stations [Ref. 27]. The 1994 GAO report stated that the annual lease cost savings from the Philadelphia Project would range from $71,000 to $96,000 [Ref. 4:p. 46].

These are significant cost savings for the services and strongly support greater collocations and further research into consolidating functions across services. However, the analysis of these actions omitted any consideration of the effect on service-specific production or the QOL factors for recruiters. Both programs, if implemented, will require station expansions, closures, openings and relocations.

Another consideration is that the Chicago and Philadelphia Projects evaluated cost savings of realignments using only lease and contract costs and the amortization schedule of initial costs, the standard criteria used by COE in analyzing the economic effectiveness of relocations [Refs. 24 and 27]. As mentioned by the Chairman, JRFC, collocations have been and continue to be the largest cost savers in RFP [Ref. 25]. Collocations significantly reduce the overhead costs of lease management, which increases proportionately to the number of leases held by COE. They also increase the bargaining flexibility real estate specialists have when dealing with larger space requirements, [Ref. 25]. As a consequence other costs and relevant production factors in realigning recruiting stations were not addressed by the projects' methodology. The current proposal is to expand this type of consolidation to similar recruiting areas. However, a cost benefit analysis of all relocation costs and production factors is required to determine if this initiative of increasing collocations is an effective way to manage recruiting resources. For example, a significant drawback to full collocation is the services' different zoning methods which lead to inconsistent recruiter territory assignments among multi-service recruiters in collocated offices. This would be reflected in the unequal distances recruiters would travel to reach their target markets.

1. JRFC's Strategy

With direction from DoD to contain recruiting costs and the informal policy of "doing more with the same, or less" the JRFC adopted the Space and Cost Reduction Program in 1991. This program which is one of the three fundamental components of RFP and a feature in RFMIS has allowed the COE Districts and the JRFC to monitor the costs and space usage of recruiting stations by flagging stations which fall outside established parameters. Stations with 50 percent more than the authorized excess space or having lease costs of more than $30.00 per square foot are identified through RFMIS. The 18 COE Districts then conduct a cost analysis of the flagged stations and consider them for either lease renegotiation or realignment if necessary [Ref. 3:p. 28]. While the collocation policy set by JRFC has been a successful method for reducing facilities costs, particularly fixed costs, the Space and Cost Reduction Program has been the driving factor in reducing recruiting facilities costs by almost $23 million since 1991.

The current process for developing the services annual Maintenance Plan discussed in Section C.2 is not a joint process even for those stations with collocated services. Although at the JRFC level the evaluation of specific realignment decisions and the Maintenance Plan in general involves a joint process, the realignment decision process of one NRD or Battalion Commander does not always take into account another service's needs or objectives. Each service evaluates the distribution of its recruiting facilities, its recruiter assignments, past production success in an area and the shifts in the market to determine what station realignments or maintenance actions will be required for the coming FY. Despite the similarity of each service's objectives, decisions and actions in realigning stations, the

decision variables and processes they use can vary and so can their relocation decisions. [Refs. 3:p.37 and 13, 14, 25]

JRFC programs and policies provide incentives to COs to be more cost conscious in their decisions. For example, the Space and Cost Reduction Program has saved millions of dollars since its inception and the collocation policy helps reduce some of the fixed costs of facilities management. However, the committee still sees potential cost savings as well as inefficiencies in how the services manage and develop their annual Facilities Maintenance Plan, particularly when requesting relocations or new stations. Such an effort requires identifying both the relevant costs and the production factors used by the services' commanders in making these type of decisions. Interviews with CNRC's Comptroller, COE representative, the four NRA budget officers and RFMIS managers confirm that costs are secondary to production criteria in the military services' realignment decision process. This is due in part to the mismatch between incentives and responsibility when making these decisions: the commanders are held accountable for the production in their Districts, Battalions and Squadrons and use funds ('soft dollars') allotted to them by the Army to realign their facilities to maximize production.

The result of such a mismatch has led to commanders putting significant pressure on the COE Districts to move them into spaces which may help them meet their production goal in the short run, but may not be the best locations in the long run. To address this, the JRFC has introduced a change in the process to make the commanders more sensitive to the cost of real estate and to create an incentive for them to conserve funds in their realignment decisions. Currently, the services receive an allocation from the JRFC for their annual

Facilities Maintenance Plan which essentially becomes the budget they work with for upgrades, expansions, painting, carpeting, relocations of their stations and for opening new offices.

According to the Chairman of the JRFC the current allocation of maintenance dollars to the services will be replaced with a service "Real Estate Budget" (REB). The REB will incorporate space and cost reduction parameters with the local commander's funds for his or her annual facilities maintenance actions. Specifically, commanders will be given excess space targets based on the amount of excess space used by their current stations. These targets are managed by the commanders and are used as trade offs when realigning stations so that a decision to exceed their space target will cost them a portion of their maintenance 'budget' or REB. Therefore, a commander can choose to open or expand a station exceeding her space target in order to fulfill production requirements, and knowingly reduce the NRD's maintenance budget by the cost of the excess space. The program's intent is to reduce costs by minimizing excess space and hi-cost (over $30.00/square foot). It is an incentive system for commanders because it gives them more flexibility and responsibility in managing their maintenance budget. As a fail safe to this, JRFC has set a maintenance budget floor of $.60/square foot which the commanders can not go below. This floor will ensure that there is enough money to maintain their spaces presentable (i.e., carpet cleaning, repairs, painting, etc.) [Ref. 25].

In summary, all efforts and studies by OSD, JRFC and the individual services have led to the same end: there are many opportunities in the management of recruiting operations for minimizing hi-cost facility leases-those exceeding $30/square foot, and streamlining processes.

The difficulty lies in balancing cost savings with mission requirements, particularly during budget cutbacks. The NPS study will combine the facility cost savings objective of the Philadelphia and Chicago Projects with the production objectives of the service commanders' realignment decision process. Relevant costs beyond lease and contract costs, will include those costs which the decision makers also incur and pay with their O&M funds.

The next section reviews the studies which have looked at methods for optimally locating recruiting stations, or have developed regressions models designed to determine the best location and allocation of recruiting resources. Chapter III also attempts to define cost-effectiveness in recruiting operations and how these studies defined this measure.

III. LITERATURE REVIEW

A. SOURCE OF RECRUITING OPERATIONS STUDIES

Congressional concern has not been the sole source for studies on the military's recruiting process. Because recruiting is such a dynamic business that is highly susceptible to environmental and economic changes, the services themselves have studied, analyzed and adjusted recruiting strategies since the inception of the AVF. For example, studies on the recruiters incentive programs led the Navy to a shift from an incentive system that rewarded individual goal attainment (Freeman Plan) to one rewarding station goal attainment and back [Ref. 7]. The Army funded research at NPS in 1993 and 1996 to develop a new recruiter incentive model which maximizes market potential using information from those most knowledgeable about the market-- recruiters [Ref. 8]. Studies have also been conducted to develop econometric models to determine the optimal use of recruiters and alignment recruiting stations. The Navy and Coast Guard for example, have looked at alternative optimization models for decisions on opening and closing recruiting stations and optimal recruiter allocation [Refs. 9 and 10]. Behavioral research was conducted by Kevin Lyman at USAREC, to develop a prototype of the 'ideal' recruit and to identify these individuals' geographic areas of concentration to make market identification more precise and cost effective [Ref. 11].

All studies, whether generated by Congress or the service secretaries, have focused on maximizing recruiting resources to achieve accession goals. In some cases, such as the 1994 GAO study, the objective has included searching for potential cost saving areas in

recruiting operations. These studies have identified for the services the key environmental, demographic and recruiting system variables affecting their recruiting operations such as employment rates, proximity of stations to the 17-21 year old population, advertising, recruiters available in an area and enlistment incentives [Refs. 4 and 10]. The recruiting services can therefore manage these variables to maximize their recruiting mission objectives through the optimal use of their recruiting resources.

This latest study analyzing NRS location cost variables for OSD is part of the continuing effort to improve the services' management of recruiting resources. The larger project by NPS will be geared to providing a joint solution for the military services in determining ideal recruit station locations and realignments, vice this study's service-specific analysis. As part of NPS's long range study this thesis will identify the Navy's relevant costs when making NRS realignment decisions, the location of these costs and the feasibility of their collection at the NRS level. In order to identify the relevant costs it is necessary to examine the Navy's responsibilities, policies, procedures and rationale in determining recruiting resource allocation decisions.

B. ECONOMETRIC STUDIES OF RECRUITING RESOURCES

The following studies were designed to place recruiting stations in ideal locations and manning them accordingly, or to maximize a recruiter's production through incentive or quota systems.

1. The Optimal Location of US Coast Guard Recruiting Offices

In 1989 a thesis at NPS examined the ideal placement of Coast Guard recruiting stations. The purpose of the thesis was to identify optimal locations for 65 USCG recruiting

stations and the best assignment of 242 recruiters based on an area's *quality applicant potential* vice the quantity potential variable often used by the military services. Enlistments are driven by quotas which the study determined could not accurately evaluate the potential of an office [Ref. 10;p.23]. Since the Coast Guard's interest is quality, defined as applicants who are high school graduates and who score in the upper 65 percentile of the AFQT, the study used a "reward" model to predict the optimal location. [Ref. 10:p. 26]

The reward value of a station is a function of the number of quality recruits it accessed and the potential for such future accessions. The higher a reward value the better the recruiting station was at accessing quality recruits or the greater the potential of a proposed location in doing so. The two independent variables of this model are Navy recruiting performance in each location and the total number of Coast Guard recruiters. The thesis used Navy production data on the areas proposed by the Coast Guard because the Navy has data on a larger area of the nation than the Coast Guard which allows them to evaluate almost any potential location for a recruiting office. Additionally, the similarities between these two sea going services supported the assumption that the Navy's ability to recruit quality applicants in a given area can be translated into some relative potential for the Coast Guard in that area as well [Ref. 10:p. 24]. The relationship is expressed as follows:

Reward = f (Navy data, # of USCG recruiters)

Navy data is composed of five weighted production variables as follows, with the weight in parenthesis:

1. Quality enlistments (4);
2. Quality minority enlistments (4);
3. Total accessions lasting more than nine months (2);
4. Total minority accessions lasting more than nine months (3); and,
5. Total number of applicants seen at a location (1).

To evaluate 76 existing and proposed locations the model was solved using dynamic programming which generated an ordered list of 65 stations and respective recruiter assignments that maximized the "reward" for the USCG [Ref. 10:p. 28].

Some basic assumptions were made when choosing explanatory variables. The first assumption was that the Navy's past production success in an area could predict the USCG recruiting potential in areas not yet tapped by the Coast Guard.[6] The second, was that optimal location for a station was not affected by costs because the total number of stations and recruiters would remain constant, and recruiting costs would stay the same regardless of the location. Therefore, the study excluded all facility lease and related costs in its analysis. [Ref. 10:p. 63].

According to the author, the poor quality of the data would not allow for specific recommendations about placements of the USCG stations. The model was added to identify some locations which were almost self evident in their reward potential for the USCG; it also

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[6]The Navy makes this same assumption when locating its recruiting offices.

validated some of the existing locations. The results also supported the assumptions mentioned in interviews conducted for this research, that the closer recruiting resources are to the market the better are production results [Refs. 12 and 25]. Because the market is usually concentrated where real estate is costlier (i.e., malls and metropolitan areas) it follows that stations cannot always be placed in the heart of the market, since there will be a point at which it is no longer cost effective to do so [Refs. 24, 25 and 31]. In general, the model provided a good list of optimal locations, but because it lacked an affordability variable, the model does not improve on the 'good judgement' and supply models already in place to locate stations and personnel based on maximum production. The author recommended a cost-benefit analysis before realigning or opening new stations.

2. Location-Allocation Model for Naval Recruiting Stations

A second project was completed by two faculty members and a thesis student from the Operations Research Department at NPS for CNRC in 1992 [Ref. 9]. The group developed a model to be used for realignment decisions at the station level, but the model is really suited for decisions made by the NRD commanders.

The objective of the model was to maximize the production of "A-Cell" contracts or quality contracts in a zip code using optimal recruiting station locations and recruiter allocations, referred to in the report as a LOCAL problem, and solved as two sub-problems. The authors used one of the four quality production regression models developed specifically for CNRC to predict "A-cell" production in order to maximize this production in their model. "A-cell" or quality production is a function of the following [Ref. 9:p.1]:

- population density;
- population of 17-21 year olds;
- recruiter share (the ratio of recruiters assigned to the station to the total number of recruiters of District); and,
- distance between the centroid of the zip code and the station.

Running a regression of this CNRC production model indicated that the two variables affected by closing a station are recruiter share and distance. This project concluded that to maximize production these two variables had to be optimized.

The final model was composed of sub-models, one for the station question another for the recruiter question. The variables used in the optimization model include:

- distance from centroid to opened station;
- population of 17-21 year olds in zip code;
- population density in zip code;
- recruiter share in zip code (number of recruiters in zip code to total recruiters in District);
- total number of zip codes in the area (all zip codes must be assigned to an NRS)
- recruiter share (same as above);
- total number of recruiters in NRD; and
- total number of stations to remain open.

The location problem was solved first, then the recruiter allocation solution was solved for the remaining open stations. The result of the model is a list of optimal station and recruiter combinations to help decision makers maximize their quality production.

The model was run using 1991 production and station and recruiter assignment data for New York and New Jersey Districts, to calculate the savings in facilities and people from using the solution. The model results were further analyzed using cost data, such as a District's annual operating budget to plan the optimal station and recruiter allocation for the year within a **fixed** budget. The budget was assumed to be the summation of the cost per recruiter and the operating cost per station [Ref. 9:p. 7].

The results of the model indicated savings in recruiting resources for the New York and New Jersey Districts ranging from zero to 35 percent for optimal location of stations and from two to 20 percent for optimal alignment of recruiters. The second analysis, using operating budget data assumes that amounts to be expended for recruiters and stations are set and unchanging for the coming fiscal year. Recruiting facilities maintenance costs are only estimates at the start of the cycle and fluctuate significantly throughout the year, [Refs.3:p. 31 and 14]. Operating budgets allocated to Districts are also adjusted (usually downward), within a FY as was the case in 1997 [Ref. 22].

3. Quota Based Recruiting System and Bonus Incentive Recruiting Model

Research on a "Quota Based Recruiting System and Bonus Incentive Recruiting Model" was funded by USAREC and completed by NPS in 1996 [Ref. 8]. The purpose of this research was the development of the Bonus Incentive Recruiting Model (BIRM) to help maximize market potential and facilitate the efficient allocation of recruiters for USAREC. The authors propose that the current incentive and quota allocation structure is inefficient and does not maximize the potential of the target market. Consequently, the data resulting from the recruiters' effort under the current model may not be useful for further recruiting

efficiency analysis, [Ref. 8:p. 9]. This conclusion about the impact of the quota system has implications on the models used so far in determining station efficiency with cost-per-contract calculations and in the use of past production success or failure to locate stations. Until there is a change in the quota incentive systems used by the service this assumption remains a useful given.

The researchers' model BRIM, uses a *truth revealing mechanism* which rewards the recruiter for both revealing the true potential of their market and accessing the number of applicants which is reflective of this potential. The quality (and quantity) of the reward bonus is proportional to the size of the forecast and additional rewards are based on the delta between the recruiter forecast and actual production. The objective is to use real time information about the market from the recruiters and, with this knowledge to help USAREC efficiently deploy their recruiters and allocate mission goals. A basic assumption of this research is that the current system of goal allocation is a dis-incentive for recruiters to exceed goals and get the most out of the market. As a consequence the system does not provide an accurate picture of the market's potential because it uses past accession data to determine a this value.

The variables in this model were based on the objectives of an ideal incentive system, these include:

- provide an incentive to exceed goals;
- monetary rewards for both effort and forecasting ability;
- equitable rewards across regions despite market differences;
- obtain current and reliable [market] information for efficient resource decisions;

- make it adjustable to changing mission requirements; and,
- maintain quality in the accessions.

Running their model through various hypothetical scenarios, BRIM resulted in increased recruiter effort, higher goal achievement and greater efficiency in the operation. Although it was recognized that no system can gain 100 percent efficiency, BRIM can enhance the recruiters' efficiency under the current quota incentive system.

4. Recruiting Station & Recruiter Location Methodology Report

A study on recruiting station location and recruiter allocation was completed by the Systems Research and Applications (SRA) Corporation of Arlington, Virginia in 1996. The study examines all the services' current procedures, data bases, methodologies and rationale in assigning target market territory, locating recruiting stations and allocating recruiting resources: recruiters and advertising dollars. A description of all the services' policies and objectives to achieve the recruiting mission is also provided as background to the different processes in place to accomplish the mission. SRA ultimately attempts to develop a joint or, as they call it a standard model for recruiting office *relative efficiency*, using the guidelines set by a joint task force which met in May and July 1996.

Its analysis concluded that field commanders at the NRD, Battalion and Squadron level are the ones who make the recruiting station realignment decisions which OSD is interested in standardizing and making more cost effective. The decisions are based on changes in mission requirements from headquarters and shifts in the market as identified by field personnel. Additionally, it stated that these commanders' decisions were guided

primarily by production priorities, with cost factors frequently taking secondary importance. Many of the interviews with CNRC and HQUSACE personnel conducted for this thesis supported these findings and provided the justification for the recruiting commanders' rationale. This SRA report provides a thorough description of the Recruiting Facilities Program (RFP), the COE's program for managing the maintenance and costs of these facilities. This section of the SRA report was used extensively in chapter two of this thesis to summarize the program.

The SRA model considered the recruiting station realignment process as a "high-level model" with inputs and outputs employing controls and mechanisms to achieve a desired product, [Ref. 3; p.57]. This is the model used to measure recruiting office efficiency on an annual basis:

$$\textbf{Efficiency}_t = \textbf{Input}_t \div \textbf{Output}_t$$

with the following input variables:

1. Labor;
2. Facilities;
3. Transportation;
4. Communications;and
5. Other costs.

The output variable, net contracts is expected to vary for each service since each one includes different factors when calculating net contracts.[7] This model looks historically at costs-per-

[7] Those contracts written during the period being evaluated actually shipped off to basic training which can include active duty contracts only or, reserve contracts as well.

contract, and is expected to allow each service to rank order its stations annually, to determine which are candidates for closure or relocation based on their efficiency. Any decisions to realign stations using this model should be balanced with input from the field on projected or occurring shifts in the market which are not reflected in the historical costs used in the model.

Variables were separated into direct and indirect costs, and excluded all indirect costs such as advertising and overhead costs for NRAs and CNRC and COE support to the RFP. The remaining costs were divided into location dependent or independent (not influenced by location). They used 20 direct costs not affected by location including recruiter basic pay, BAQ, BAS clothing allowances, office furniture, supplies, local phone service and local advertising. Seven costs were dependent on location including VHA, applicant travel and lodging and long distance calls. Facilities costs also a function of location, included the lease, utilities and maintenance costs which were available through RFMIS.

All service recruiting stations will fall into one of nine cost categories using a size and population matrix. The matrix categories range from high density to low density, these are determined by the geographic size of the territory assigned a station and the size of the population in the area. The SRA group recommended that services conduct a study to determine where their stations will fall and the Army's Proof-of-Concept study mentioned earlier identified the **MapInfo** program was a good tool for identifying the "natural breaks" in each subcategory to help categorize stations [Ref. 1:p. 3].

The SRA study made several assumptions about the location and realignment process in developing the model. Firstly, efficiency was defined as a recruiting office's relative cost-

per-net-contract, therefore, only applicants who shipped to basic training were considered. Secondly, *relative* efficiency was evaluated against a service specific benchmark, assumed to be some ideal cost-per-net-contract amount determined by the services. The latter assumes there is little variation in the cost drivers of running recruiting stations within the same category.

The use of such costs as basic pay, BAQ, VHA is not applicable in the service commanders model, because these costs are fixed and neither add or detract from the cost factors of their realignment decisions. However, from a macro perspective, manning should be considered in future cost-effectiveness research. The exclusion of vehicle costs from the list of costs dependent on location ignores the impact a relocation will have on driving distances. In addition to the monthly lease costs, GSA charges for vehicle mileage at rates ranging from 10 to 12 cents per mile [Ref. 22]. Non-recurring costs, such as facility build-out, administrative costs of Army Corps of Engineer Realtors (REO) and NRD moving costs were excluded from this model, but in fact can influence the annual realignment decisions because these one-time costs are charged against one of the services' accounts, either the facilities maintenance budget or their O&M budget. Therefore, these variables offer an opportunity to cut costs in realignment decisions. The differentiation of communications costs into local and long distance is very useful in determining costs which are a function of location and will be used in this thesis.

5. Army's "Proof of Concept" Study

This study headed by Major McKinnon, a USAREC Joint Task Force representative, took up where the SRA group left off. Using SRA's methodology the study produced a list

of Army recruiting stations rank ordered by contract cost effectiveness using FY 1995 production, personnel and cost data.

The study collected costs for the five categories: labor, facilities, transportation, communications and other costs, by accessing various data bases within USAREC and external to the Army. Using the Microsoft EXCEL "If...And...Then...Else" function, both cost and production data were tabulated by Recruiting Station Identifier (RSID) to ultimately calculate cost-per-gross-contract values for each station. Using MapInfo's "natural break" function[8] over 1,100 stations were grouped into categories to allow for cost effectiveness comparisons among like stations. These categories captured both population and geographical size and were as follows:

- urban;
- suburban; and,
- rural.

The study was tailored for the Army and was supported by several data banks maintained by the Army, by DMDC's recruiting production and personnel data bases, by the RMIS marketing data base and by RFMIS. The following assumptions were made in collecting and analyzing the data:

- a station's effectiveness was measured by its cost to produce one accession;

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[8]This function allows the user to organize a listing such as stations with specific population and geographic size characteristics into a desired number of groups (i.e. three). It does so by identifying the dividing point on the lists with the greatest change in variance, or the group of stations with the smallest changes in variance.

- accessions are gross contracts instead of net contracts, for the Army this includes active and reserve recruits;
- authorized recruiter manning vice actual manning for stations was used;
- target population of 17-21 year olds was used as a surrogate of a second variable used in previous models, population density; and,
- direct, indirect and overhead costs were included in the model to calculate effectiveness if they were a function of location (i.e. they changed with location).

Total cost per contract was calculated as the sum of the following subcategories, the data source for each category is listed in parenthesis:

- facilities cost-per-contract (RFMIS and COE);
- overhead cost-per-contract (Brigade, Personnel and Resource Management Division);
- compensation overhead cost-per-contract, such as base pay, BAQ, BAS for an E-6 with 14 years of service (Brigade, Personnel and Resource Management Division); and,
- VHA cost-per-contract, using VHA rates by zip code (Brigade, Personnel and Resource Management Division).

The study generated a list of urban, suburban and rural recruiting stations and rank ordered them by total cost-per-contract. This methodology provided a means of analyzing the performance of many recruiting stations, at first glance the results identify the ideal cost effective station characteristics within each category and seem to be useful in predicting cost effectiveness of proposed locations. But, further analysis by Major McKinnon indicated that the results were more a function of recruiter production than the effective use of resources, since cost-per-contract decreased in proportion to the increase in productivity. The large number of fixed station costs affected the final results as production varied across same-type

stations and over time. As mentioned earlier, a station can appear to be very cost effective for one period (quarter or year) and then be 'cost ineffective' the next period, depending on the change in the productivity of the station's recruiters [Ref. 5].

Despite the problematic fixed cost effect on the results of this model the output is useful for further research and analysis. Using the model the recruiting services can track station performance over time (quarter or year) and use it as an additional variable in the realignment decision process. A District CO can choose to close a consistently, non-performing station or expand a station whose production is increasing. This is of value only if data collection and retrieval for the model is feasible and can be done frequently (at least annually) to match the Recruiting Facilities Maintenance Plan schedule. According to Major McKinnon the time and labor consumed to generate the results were excessive and not cost effective, although they recommended that the process be done more frequently to be useful. Scrubbing the cost data categories they used to come up with a fewer number of variables which are more relevant to a District CO would make the process more practical.

Perhaps the most useful aspect of the Army study for this thesis is its categorization of station locations which, combined with the characteristic variables of stations used in production models, comprise a group of key variables affecting both station costs and production. If the relationship of these variables can be determined, they have the potential of becoming a predictive model. With such a model a District CO could determine the effectiveness of a proposed station location by predicting the number of contracts the station can generate and at what cost. A model can be verified by comparing past data of the

cost of stations with given location and production characteristics with the predictive value of the same stations using the model.

Both the SRA study and existing production models focus on location as a function of both station costs and station production. In the SRA model, costs are a function of station characteristics which in turn are a function of location. These characteristics are defined by the population density and size (square miles) of the zone. In production models accessions or contracts are a function of station characteristics which are defined by the station's distance from the 'centroid' and the population density of its responsible zone; the size of the zone is not considered, while the number of recruiters assigned is an included variable. The closer a station is to an urban area (high density population and small geographic area) the higher the cost per square foot of real estate and the lower the cost in a rural area (low population density, large geographic area) the less costly the real estate. Likewise, the closer a station is to the centroid and the higher the population density of its zone the greater the accession potential.

IV. METHODOLOGY

A. RELEVANT COSTS

The main objectives of this thesis are to identify the Navy's relevant costs of different station locations and to evaluate the feasibility of collecting and analyzing these costs and of ultimately automating the collection of them. To accomplish these goals the thesis reviews the Navy's responsibilities, policies, procedures and rationale in determining recruiting resource allocation decisions. Facilities lease and related contract costs, vehicle costs, applicant costs, out-of-pocket-expenses (OPE)[9] and communications costs were identified as those costs items affected by realignment or location decisions. Lease and contract costs for stations were found in the RFMIS data base; applicant costs, OPE, communications and vehicle costs were found in CNRC's financial management reporting system. However, the CNRC cost data were not maintained at the NRS level. Two methods for expanding the data found in CNRC's data base to include station-level cost data are discussed in chapter V. While a one-time effort to collect station-level cost data using one of these two methods would be feasible, the construction of an automated station-level cost data file does not appear to be feasible. Although it was an objective of this thesis to conduct a cost-effectiveness analysis this was not done due to a lack of necessary station-level data. However, this section provides an illustrative spreadsheet of NRS-level costs based on data

[9]OPE is recruiter out-of-pocket expenses to buy applicants' lunches, sodas, snacks and bus tolls. These expenses are considered part of the recruiting/canvassing process.

from selected NRS's. Also, the recommendation section below proposes two approaches for future collection and analysis of the necessary cost data.

The studies reviewed above identified a varied group of relevant costs. In the Army's "Proof-of-Concept" study, the categories were expansive and included such fixed cost items as a recruiter's base pay and a percentage of the overhead costs for maintaining supporting military structures, such as base housing. These items will not vary with a station's location. Meanwhile, categories of costs used in other studies were not comprehensive enough. An example is the GAO study which used only advertising costs and the military services' operating budgets for recruiting to calculate cost-per-contract as a measure of station cost-effectiveness [Ref. 4:p. 18]. Although manning costs were not included in this thesis future DoD-wide cost-effectiveness analysis of recruiting operations should include these.

Research on the realignment process and interviews with personnel from COE, and selected Navy Recruiting Areas and Districts indicate that the most relevant costs are those costs which change with a station realignment which can include any of the following actions: opening, closing, relocating or expanding an existing station to allow for more recruiters. Some costs change by significant amounts (e.g., lease costs), while others change marginally (e.g., vehicle mileage charges by GSA or a recruiter's OPE in high cost areas). Other costs, such as a recruiter's variable housing allowance which might increase (decrease) if the move is to a location with a higher (lower) cost of living rate, were rare and considered a 'sunk cost' to the decision makers [Ref. 30].

Within the group of costs that change with a realignment and therefore are a function of location are some which are not charged against the NRD's maintenance or operating

budgets. These were not included in this study's selection of relevant costs. Applicant costs for transportation to and from the MEPS is an example. Normally, public transportation and overnight lodging of applicants for processing at the MEPS is paid for by CNRC from a centralized budget [Ref. 13]. However, when public transportation is not available for the applicant, recruiters must shuttle the applicant back and forth from their home to the MEPS for processing and for shipment to the RTC, thereby increasing the mileage and maintenance cost of a recruiter's vehicle. These costs are not included in this study's list because they are incorporated in the total higher vehicle costs of that station. For example, in a rural area like Montana where applicants often do not have access to public transportation, recruiting stations will consistently have higher vehicle costs than similar sized stations in urban areas [Refs. 1 and 33].

Three relevant incremental cost categories affected by these changes and gleaned from the review of related studies and interviews with those involved in the decision were identified as follows:

1. Facilities lease and related contract costs;
2. Vehicle costs (mileage and maintenance costs); and,
3. Communications costs (toll calls).

B. DATA COLLECTION AND LOCATION

The following is a discussion of where these cost items reside and the ease of retrieving them. Once the costs were identified, their location was determined by contacting the financial managers at the CNRC, NRA and NRD levels. The facilities costs and respective contracts costs are located in the RFMIS data base managed by HQUSACE. The

other cost items are collected, consolidated and managed at different locations and in different echelons of the Navy recruiting organization. This dispersion of the data is in part due to policies at the NRA level dealing with reports management, which requires supply officers to consolidate reported costs as much as possible. Table 4.1 lists the organization responsible for each cost item. The databases provide only a snapshot of the cost elements. The snapshot provided in the RFMIS data base is for one year, whereas in the GSA vehicle cost data file it is only for a three month period.

Cost categories	Data Base Name and Type		Organization	POC	Level	Time period
Facilities & Contracts	RFMIS	ORACLE	HQUSACE	Joe Streeter	Station	1 year
Vehicles	GSA	UNISYS A16	GSA	Program Office	District	3 mos.
Communications	FMS	DB-III+	CNRC	Comptroller	District	1 year

Table 4.1 Cost Categories and The Responsible Organizations

CNRC tracks Navy-wide cost totals for recruiting support and advertising budgets and expenditures through their Financial Management Data Base System (FMS). These records of expenditures include consolidated vehicle and communication costs for each Area as well as the cost-per-A-Cell-contract[10] based on an Area's operating budget expenditures [Ref. 28]. Each Area office has a Budget Officer who develops budgets and tracks aggregated costs for the Districts under their responsibility. Using FMS, Area Budget

[10] A-cell contracts are high quality enlistees who are high school graduates and who score in the upper 50th percentile of the AFQT.

Officers collect expenditure information from the Districts, consolidate it and report it in quarterly Financial Management reports to CNRC.[11]

The packaging of these quarterly financial reports to CNRC was a drawback for this study. Vehicle and communication costs (among other cost and production data) are consolidated at the NRD level when reported to CNRC. Area records do not identify these costs by station. At this author's request, Area Budget Officers contacted some of their NRD's to get a breakdown of these costs by station. Although NRD Supply Officers were able to get some of these station-level costs, the effort was very time consuming, requiring manual adjustments to existing reports and reconciling data with actual billings or station leases. Often the best data the District Supply Officers could provide were average costs to open and maintain two-, three- and five-person recruiting stations by using established cost and assignment rates for telephones and vehicles.[12] Appendix D provides an example of these costs. This information is useful in identifying both one-time and recurring vehicle and communication costs by station type as defined by the number of recruiters assigned, but it does not account for costs which vary across similarly staffed stations in different locations. The NRD Seattle Supply Officer was able to generate a detailed and valuable report for two stations, NRS Coeur D'Alene and NRS Payallup. However, this was the exception for

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[11] Production information is also reported quarterly to CNRC in this centralized FMS data base. FMS can provide reports or handle queries on cost and production categories, but only in a summarized format.

[12] Each station gets a dedicated phone line for the fax, and one phone line per recruiter. Vehicles are assigned at the rate of .75 per recruiter, therefore, three-,four- and five-person stations get two, three and four cars respectively.

reports on the relevant cost data elements collected for this study. Appendix E provides a detailed cost report of NRS Coeur D'Alene from NRD Seattle.

C. AUTOMATING THE COLLECTION OF STATION-LEVEL COST DATA

All three of the relevant cost categories are found in data bases and their collection, although done by different organizations, is already automated. However, the data bases differ both in location and format and it has not been determined whether they are compatible.[13] The collection methods are inconsistent, which makes it difficult to get historical data for the same time periods. The possibility for standardizing these methods and adding detail exists but there is a trade off. Standardization would require the investment of additional man-hours at the NRD level and building the data base records, as opposed to pulling historical data to do an analysis. It is unlikely that this data collection will be accomplished at the station level by field recruiters since there is a strong sentiment among managers that the recruiters and zone supervisors cannot handle this additional workload [Refs. 13, 20, 22 and 30].

Collecting station-level costs to conduct a cost-effectiveness analysis is feasible, at least for annual cost data. Communication and vehicle costs are currently monitored and reported by the NRD Supply Officer. As a one-time effort, this same person could track an collect these costs at the station-level for a selected number of stations from the District for a year to create a historical archive of these detailed costs. Alternately, someone attempting

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[13]The data bases appear to have common fields, such as vehicle identifiers, so that ACCESS (a relational data base) could be used to import the data and merge the common fields to allow for data manipulation.

to conduct a cost-effectiveness analysis could pull the costs to maintain the specific stations for a year from RFMIS, FMS and GSA (for GSA data one needs four quarterly snapshots), expand the cost data by applying the cost estimate rates and averages used by Districts to include more detail as necessary. If these cost elements remain valid, they can be used in a regression model to predict costs. Testing a model's predictive powers ("opening this type of station will cost x dollars") would require identifying the characteristics of stations which are a function of location and size. Categorization of stations by characteristics which are a function of location and size of the office is important for analyzing the collected cost data. To facilitate this analysis, stations could be categorized using the established method used by the Districts into small, medium and large sizes. A more detailed discussion of categorization methods is found in the next section.

D. DATA ANALYSIS

Cost data were collected from various sources to illustrate the approach that could be taken to analyze costs. Area and District costs for vehicles, communications and recruiting support (covered by O&M,N dollars) and advertising costs were aggregated at the NRD level. Averages of the relevant costs identified by this study were the most readily available measures in an Area's or District's data base. Facilities and contract costs and vehicle *assignments* at the station level were collected from RFMIS (See Appendix C for a listing of RFMIS reports used in this study). Vehicle costs by station, however, were not maintained in the consolidated reports or in a data base by the Districts, Areas or in RFMIS. They are maintained as summary costs in the FMS data base at CNRC, but these costs only reflect the total vehicle lease and mileage charges per District. GSA through input from its Regions and

Fleet Management Centers (FMC) maintains a data base containing lease and mileage billings (costs) for vehicles by geographic locations and tag numbers which (using NRD data) can be matched to recruiting stations. The GSA data base contains only 'live' information or costs for the last three months. Older data is maintained on microfiche but can be provided by GSA. This cost data can be downloaded by a GSA representative from their UNIX system and converted to a "Windows" based system. This data can then be merged with other data bases within CNRC [Ref. 33].

The costs reports by themselves do not capture and explain what happens when a station realignment occurs. A comparison of similar stations or an evaluation of the change in costs for a given type of station change would better explain the impact of the particular station change on costs. A comparison can be made using the station categories defined in the Army's study of "rural", "urban" and "suburban". Or, stations can be compared within a District using the recruiter incentive competition system (RIS)[14] categories of "small", "medium" and "large" stations. This categorization is based on a station's recruiter assignment factor (RAF) provided by CNRC through STEAM reports. The District's method is a more accurate determinant of these categories because it uses station features of territory size and station manning (RAF), market characteristics (market share) and geographic idiosyncracies (judgement of the Chief Recruiter, zone supervisors and EPO)[Ref. 32].[15] A

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[14] RIS is a nationwide recruiter competition system which is based on met and exceeded quotas. The competition is monitored by CNRC.

[15]For example, a RAF of 2.5 categorizes a station as small, while a RAF of 3.5 categorizes it as large. Rounding up or down is left up to the CR and Zone Supervisors, it is a judgement call based on their knowledge of the territory and the station.

final comparison is one limited to changes in facility costs including the costs to open a station. These costs are found in RFMIS which can provide the cost savings (or increases) resulting from a relocating or opening a new station. The limitations here are that this information is available only on moves which were approved (as opposed to all those proposed) and the RFMIS data base is only one year old. To get a historical record of these costs, NRD Supply Officers would be required to archive these annual RFMIS cost reports.

The data which has been collected so far for this thesis has potential uses in identifying trends, such as the costs of opening and maintaining different size stations across the nation using the categorization of small, medium and large established by each NRD. This would allow for a comparison of stations of the same size and geographic make up. Size as determined by the Districts is a surrogate for manning, market characteristics (based on the ASAD[16] and STEAM) and the distance of a station from its centroid (a component of the geographic idiosyncracies considered by the Chief Recruiter and Zone Supervisors).

Table 4.2 is a Microsoft EXCEL spreadsheet of the relevant costs identified in this thesis: facilities lease and contract costs and vehicle and communication costs, for 35 of the 37 recruiting stations from NRD San Francisco. Although NRS Manteca functions as an independent recruiting station with its own recruiters, goaling and accession data it is not included in Table 4.2 because the recruiters are working out of the NRS Modesto spaces. NRS Manteca began as an expansion of NRS Modesto in response to a growing market in that area in 1996. Recruiters, office equipment and vehicles will be relocated to new office

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[16]All Service Accession Data (ASAD), a quarterly report of all past accessions by service and by recruiting zones.

spaces in FY 98 when NRS Manteca officially opens [Ref. 30]. The stations are categorized as "small", "medium" and "large" using the NRD method described above. Fiscal year 1996 station accession data, station categorization and recruiter assignment were derived from the NRD San Francisco "Quarterly Fiscal Year To Date (FYTD) Station Goals Report" of April 1997 found in Appendix F. Zip codes and facilities lease and contract costs which are specific to each station, were pulled from RFMIS using the Structured Query Language (SQL) report, an excerpt of which is found in Appendix C. Although this an FY 97 report the cost data is still applicable to FY 96 recruiting station operations. Vehicle and communications costs are based on cost estimates and assignment rates established by the CNRA-Eight Budget Officer and reflected in the Area Eight report "FY 97 Budget of Fixed Cost Estimates." Total costs and cost-per-accession for each station is calculated and averaged.

In 1996, NRD San Francisco spent an average of $42,000 for its recruiting stations, it enlisted an average of 51 applicants per-station at an average cost-per-accession of $633. Cost-per accession ranged from a low of $318 in Salinas, a medium-size station which accessed 74, to a high of $2,040 in Livermore, a small-size station which accessed 18. Facilities leasing and contract costs which are fixed, represent 51 percent of the relevant costs in station location decisions. Consequently, some of the results for cost and accession data from this spreadsheet are similar to the results in the Army's "Proof-of-Concept" study where increases in production reduced the cost-per-accession. A comparison of stations within the same category is the most appropriate method for analyzing station location with this data.

Appendix G provides an expanded Microsoft EXCEL spreadsheet for 15 NRD San Francisco stations. This spreadsheet combines the data elements found in Table 4.2 with

territory and population data. The selected stations are classified as "rural", "urban" or "suburban" using the Army's "Proof-of-Concept-Study" data file, which is based on the following criteria: (see Appendix G). [Ref. 1]

- square mileage of the territory;
- total population of the territory; and,
- population of 17-21 year olds in the territory.

Both spreadsheets are manipulated to arrive at average costs and to identify possible trends in the cost to access recruits for these stations.

The average annual per-contract cost for suburban stations is $39,000, while for urban stations cost it is $46,000. Of the 1,300 accessions in FY 96, 21 percent were from suburban stations. Close to 80 percent of the selected stations' accessions were acquired in urban stations, which cost the District an average of about $7,000 more per year than its suburban stations. Comparing average costs and accessions across station categories, it appears that cost increases are small but accession gains are large for bigger-size stations. For example, going from a small to a medium station cost 23 percent more but generates a 50 percent more accessions; going from a medium to a large station cost 17 percent more but generates 66 percent more accessions. Based on this very limited analysis, it would increase efficiency for NRD San Francisco to increase the number of its large stations and locate more stations in urban areas. These "mega-stations" would be a base of operations for recruiters who would be deployed to the suburban and rural territories in government vehicles. However, these conclusions are only tentative at this point and additional analysis of the data is required before any firm conclusions can be reached.

Table 4.2 Relevant Costs For Selected NRD San Francisco Recruiting Stations.

NRD San Francisco
Annual Recruiting Station Costs

			Facilities Costs		#			FY 96	FY 96	FY 96	
	NRS	Zip Code	Lease	Contract	Recruiters	Vehicles	Comms.	Tot Costs	Accessions	Cost/Accesion	NRS
Small											
	ANTIOCH	94509	$ 12,990.00	$ -	3	$ 8,887.50	$ 6,624.00	$ 28,501.50	58	$ 491.41	ANTIOCH
	BELMONT(MAT)	94002	$ 12,172.00	$ 2,520.00	2	$ 5,925.00	$ 4,968.00	$ 25,585.00	47	$ 544.36	BELMONT(MAT)
	DALY CITY	94015	$ 38,382.00	$ 3,228.00	3	$ 8,887.50	$ 6,624.00	$ 57,121.50	55	$ 1,038.57	DALY CITY
	EUREKA	95501	$ 13,221.00	$ -	3	$ 8,887.50	$ 6,624.00	$ 28,732.50	43	$ 668.20	EUREKA
	FALLON	89406	$ 11,040.00	$ 5,000.00	1	$ 2,962.50	$ 3,312.00	$ 22,314.50	50	$ 446.29	FALLON
	FREMONT	94538	$ 14,205.00	$ 165.00	3	$ 8,887.50	$ 6,624.00	$ 29,881.50	50	$ 597.63	FREMONT
	LIVERMORE	94550	$ 24,816.00	$ 1,026.00	2	$ 5,925.00	$ 4,968.00	$ 36,735.00	18	$ 2,040.83	LIVERMORE
	RICHMOND(PIN)	94806	$ 35,001.00	$ 1,422.00	2	$ 5,925.00	$ 4,968.00	$ 47,316.00	47	$ 1,006.72	RICHMOND(PIN)
	STA CRUZ	95010	$ 18,185.00	$ 226.00	2	$ 5,925.00	$ 4,968.00	$ 29,304.00	26	$ 1,127.08	STA CRUZ
TOTAL			$ 180,012.00	$ 13,587.00				$305,492	394		TOTAL
AVG COSTS								$33,944	44	$885	AVG COSTS
Medium											
	ALAMEDA	94501	$ 24,032.00	$ 3,316.00	5	$ 14,812.50	$ 9,936.00	$ 52,096.50	81	$ 643.17	ALAMEDA
	ALMADEN(SJO)	95118	$ 31,605.00	$ 442.00	5	$ 14,812.50	$ 9,936.00	$ 56,795.50	59	$ 962.64	ALMADEN(SJO)
	CLOVIS	93612	$ 1,685.00	$ -	4	$ 11,850.00	$ 8,280.00	$ 21,815.00	67	$ 325.60	CLOVIS
	CONCORD	94523	$ 57,951.00	$ 1,423.00	4	$ 11,850.00	$ 8,280.00	$ 79,504.00	78	$ 1,019.28	CONCORD
	HAYWARD	94545	$ 14,002.00	$ 146.00	3	$ 8,887.50	$ 6,624.00	$ 29,659.50	57	$ 520.34	HAYWARD
	MERCED	95340	$ 15,668.00	$ 3,072.00	4	$ 11,850.00	$ 8,280.00	$ 38,870.00	59	$ 658.81	MERCED
	RANCHO CORD	95670	$ 11,957.00	$ 2,632.00	4	$ 11,850.00	$ 8,280.00	$ 34,719.00	60	$ 578.65	RANCHO CORDOVA
	ROSEVILLE-S	95661	$ 16,539.00	$ 3,608.00	4	$ 11,850.00	$ 8,280.00	$ 40,277.00	62	$ 649.63	ROSEVILLE-S
	S. FRANCISCO	94111	$ 22,755.00	$ 12,248.00	6	$ 17,775.00	$ 11,592.00	$ 64,370.00	61	$ 1,055.25	S. FRANCISCO
	S. JOSE	95116	$ 32,440.00	$ -	5	$ 14,812.50	$ 9,936.00	$ 57,188.50	87	$ 657.34	S. JOSE
	SALINAS	93906	$ 7,768.00	$ 276.00	3	$ 8,887.50	$ 6,624.00	$ 23,555.50	74	$ 318.32	SALINAS
	STA CLARA	95117	$ 16,083.00	$ -	4	$ 11,850.00	$ 8,280.00	$ 36,213.00	70	$ 517.33	STA CLARA
	UKIAH-M	95482	$ 10,193.00	$ 197.00	4	$ 11,850.00	$ 8,280.00	$ 30,520.00	67	$ 455.52	UKIAH-M
	VALLEJO	94590	$ 16,857.00	$ 731.00	6	$ 17,775.00	$ 11,592.00	$ 46,955.00	76	$ 617.83	VALLEJO
	WOODLAND	95695	$ 9,343.00	$ 148.00	4	$ 11,850.00	$ 8,280.00	$ 29,621.00	70	$ 423.16	WOODLAND
	YUBA CITY-M	95991	$ 19,818.00	$ 224.00	4	$ 11,850.00	$ 8,280.00	$ 40,172.00	64	$ 627.69	YUBA CITY-M
TOTALS			$ 308,696.00	$ 26,463.00				$682,332	1092		TOTALS
AVG COSTS								$42,646	68	$627	AVG. COSTS
Large											
	CHICO-S	95926	$ 18,755.00	$ 1,114.00	4	$ 11,850.00	$ 8,280.00	$ 39,999.00	97	$ 412.36	CHICO-S
	FAIR OAKS(NOS	95628	$ 23,153.00	$ 1,355.00	7	$ 20,737.50	$ 13,248.00	$ 58,493.50	126	$ 464.23	FAIR OAKS-S
	FAIRFIELD-S	94533	$ 18,850.00	$ 1,508.00	5	$ 14,812.50	$ 9,936.00	$ 45,106.50	116	$ 388.85	FAIRFIELD-S
	FRESNO	93705	$ 22,444.00	$ 218.00	6	$ 17,775.00	$ 11,592.00	$ 52,029.00	94	$ 553.50	FRESNO
	MODESTO-S	95350	$ 29,405.00	$ 3,736.00	5	$ 14,812.50	$ 9,936.00	$ 57,889.50	94	$ 615.85	MODESTO-S
	REDDING	96002	$ 13,122.00	$ 2,034.00	6	$ 17,775.00	$ 11,592.00	$ 44,523.00	132	$ 337.30	REDDING
	RENO-S	89526	$ 23,646.00	$ 288.00	5	$ 14,812.50	$ 9,936.00	$ 48,682.50	84	$ 579.55	RENO-S
	SACRA(SOS)	95823	$ 17,489.00	$ 197.00	7	$ 20,737.50	$ 13,248.00	$ 51,671.50	75	$ 688.95	SACRAMENTO(S)
	SANTA ROSA	95401	$ 17,725.00	$ 1,835.00	5	$ 14,812.50	$ 9,936.00	$ 44,308.50	95	$ 466.41	SANTA ROSA
	STOCKTON	95207	$ 17,883.00	$ 4,158.00	6	$ 17,775.00	$ 11,592.00	$ 51,408.00	159	$ 323.32	STOCKTON
	VISALIA	93277	$ 22,838.00	$ 5,446.00	5	$ 14,812.50	$ 9,936.00	$ 53,032.50	116	$ 457.18	VISALIA
TOTALS			$ 225,310.00	$ 21,889.00				$547,144	1188		TOTALS
AVG COSTS								$49,740	108	$481	AVG. COSTS
NRD TOTALS								$1,534,967	2674		NRD TOTALS
								$42,110	51	$633	NRD AVG COSTS

Veh= (.75*#recrtr)*3950

Comms= 1656*(1* #recrtr + 1)

V. SUMMARY AND RECOMMENDATIONS

A. SUMMARY

The goals of this study were to determine the relevant costs of different station locations and the potential effect of realignments on these costs; to identify the agency or command responsible for each relevant cost element; to evaluate the feasibility of automating the collection of station-level cost items and, finally, to conduct an exploratory cost analysis of Navy recruiting stations using collected data. The reasons for station realignments were identified and included shifts in the market, changes in mission requirements and changes in personnel assigned to the recruiting mission.

Realignment decisions involve the expansion, contraction, closure or opening of a recruiting station or collocating one service with another. These decisions will usually generate costs (or in the case of closures possible savings) which are charged to the District Facilities Maintenance budget or their operating budget, creating different incentives depending on which budget is charged. Costs that arise from these station realignments were identified as was the appropriate budget to be charged.

A discussion of selected studies conducted to improve recruiting operations led to the conclusion that there remain many opportunities in the management of recruiting operations for minimizing high-cost facility leases and streamlining the organization's managerial layers, as the Navy currently plans to do, and in improving the current rewards and incentives systems. The difficulty of this lies in balancing cost savings with mission requirements, particularly during periods of budget cutbacks.

Based on the literature review and the interviews conducted with key personnel from CNRC and the RFP office, relevant costs were determined to be those affected by realignment decisions. These costs and their location (RFMIS, FMS or GSA) were identified for future collection and analysis.

Several managerial and control system issues with respect to cost management were raised. Firstly, the incentives are weak for each service's decision makers to make efficient realignment decisions based on cost considerations. This is partly a result of the current evaluation and rewards systems, which focus solely on production. The existing realignment decision making process leaves the cost analysis of a proposed location to the COE by default. Secondly, goal achievement objectives along with the current evaluation and rewards systems place enormous pressures on decision makers to make decisions based on mission at the expense of decisions that may be more cost-effective in the long-run. Lastly, the differences across services in dividing territory into zones and then assigning the zones to recruiters creates a roadblock to implementing full collocation of services in all recruiting stations, even though collocation has been identified as generating the greatest cost savings for the Recruiting Facilities Program.

The data collected for this study was evaluated for its potential use in future cost-effectiveness analyses. The data currently collected by the Navy was found lacking in the necessary station-level detail. As a consequence, two methods for expanding the existing cost data were presented. One requires setting specific guidelines for the type of data to be collected and monitoring its collection for a year to ensure a more thorough collection of cost data at the station level. A second approach which was attempted in this thesis takes existing

summary data and through data base mergers and manipulation creates a station-level cost data file. The question remains, however, of how to get an accurate estimate of station level costs without causing disruption of production at the field level.

This research effort accomplished all of its goals except the conduct of an actual cost-effectiveness analysis of alternative station locations. However, an exploratory analysis was conducted for selected stations in NRD San Francisco. The information collected and the exploratory cost analysis provide the basis for more thorough follow-on cost-effectiveness studies for recruiting station location decisions. The thesis also generated a potential list of costs and the responsible agency along with identifying possible station categories that could be used to aggregate cost and production factors. These station and location characteristics can be useful in developing predictive station cost models.

B. RECOMMENDATIONS

OSD's main concern is to develop a process that ensures that the services use recruiting resources cost-effectively. This thesis looked at recruiting facilities management practices, specifically at the NRD Commander's decision process for realigning recruiting offices to evaluate the cost-effectiveness of the current process. Interviews with COE personnel and Mr. Hoke, Chairman of the JRFC, indicated that collocation is by far the most obvious cost-effective method for assigning stations to the market, in terms of saving both one-time costs and recurring costs [Ref. 25]. The drawback to this is of course the different zoning and assignment processes used by each service, which can mean that a location which is ideal for one service may not be for another.

To develop a truly joint decision making model for station location, territory zoning and assignment processes for all the services would have to be standardized in actuality or at least in the model's assumptions. Ideally, the location process would entail analyzing the demographics and market potential of an area, locating the market 'centroid' and determining the ideal number of stations needed to cover the market, while incorporating the joint recruiting aspects. The result would be multi-service stations located through a joint process, but with the number of recruiters, the responsible zones and mission goals assigned by the individual services. This represents a significant change in the way the services currently evaluate and assign territory and raises the possibility of collocated services canvassing and recruiting from exactly the same market. Currently, this level of overlap in territory canvassed is unusual and recruiting from someone else's territory, at least within the same services, is frowned upon and is considered "poaching." Under the current system collocated recruiters work together to recruit for the military (as opposed to strictly for their service) through an 'informal' referral system in place between services. For example, when an applicant is qualified for Army duty in all respects except for a service-specific disqualifier such as flat feet, the Army recruiters will refer him to the Navy or the Air Force. Joint station location decision making also means a philosophical change to the competition between services operating out of the same offices, where differentiation must occur 'as close to the front door' as possible, based on the reality that the contract goes to the service representative the applicant first sees upon entering an office [Ref. 30]. The possibility of collocated recruiters working the same territory implies a formalization of this referral process and perhaps the beginning of a joint recruiting force. The alternative is to have each service establish service-

specific cost-effectiveness baselines to reflect their distinct zoning, goaling and territory assignment methods. The process of developing these is not explored in this thesis.

Perhaps the most useful aspect of the Army's Proof-of-Concept study was its categorization of station locations which, combined with the information on station production, comprise a group of key variables affecting both station costs and production. If the relationship of these characteristics to costs (e.g., location, station size, territory size and geographic make up) can be determined, they have the potential of becoming explanatory variables in a predictive regression model. With such a model a District Commander can determine the effectiveness of a proposed station location by predicting the number of contracts the station can generate as well as the associated cost. Such a model could be verified by comparing past actual data on costs for stations with given location and production characteristics with the predicted costs and production outcomes for the same stations using the model.

Using existing data bases identified in Table 4.1 and the various information structures within CNRC, a station cost-effectiveness analysis can be accomplished in one of two ways. First, one could identify a sample of similar stations from each of the 31 Districts to represent the urban, rural and suburban categories or the small, medium and large size categories (explained in Chapter IV, Section D and seen in Table 4.2).[17] Once the stations are categorized, cost-per-contract for the stations can be calculated, and the best stations (in

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[17]This entails applying the MapInfo 'natural break' function to geographic and population size information of all stations. This information is available from CNRC's marketing division.

terms of cost-per-contract) are selected. The population and size characteristics of these stations represent the ideal or most cost-effective station location and size in realignment decisions. Conversely, this categorization can be done for all Navy recruiting offices to create a pool of station characteristics (descriptive of location, costs and production), their costs and effectiveness as measured by cost-per-contract calculations.

A second approach for measuring cost-effectiveness is to look at historical realignment actions, and determine the actual cost consequences of each change and compare these costs for similar categories of stations. The categories could be based on characteristics such as location, station size and type (i.e., single-service or collocated) and/or on the already defined categories of rural, urban and suburban or small, medium and large. Data on vehicles and communications cost savings or increases from relocations are not as thorough as are the data on lease cost savings. Therefore, a case study approach may be more appropriate for comparing the impact similar realignments had on costs, much like the Philadelphia and Chicago Projects discussed in Chapter II.

This thesis has investigated several aspects of the station realignment decision process in the Navy. Manning was not considered in this exploratory cost analysis. However, future research on the cost-effectiveness of recruiting operations should incorporate the issue of manning. Its conclusions, based on literature reviews, personal interviews, personal visits and data collection are applicable mostly to the Navy but have implications for the other services, particularly in the shared managerial practices of zoning, goaling and allocating recruiting resources. The information provided in the preceding chapters and the appendices are for reference use in future station cost-effectiveness research.

APPENDIX A

LIST OF NAVY RECRUITING AREAS AND DISTRICTS

AREA One, Scotia, NY
Districts

- **Buffalo**
- **Columbus**
- **Germany**
- **London**
- **New York**
- **New England**
- **Michigan**
- **Philadelphia**
- **Pittsburgh**

AREA Three, Macon, GA
Districts

- **Atlanta**
- **Jacksonville**
- **Miami**
- **Montgomery**
- **Nashville**
- **New Orleans**
- **Raleigh**
- **Richmond**

AREA Five, Great Lakes, IL
Districts

- **Chicago**
- **Dallas**
- **Houston**
- **Kansas City**
- **Minneapolis**
- **Omaha**
- **St Louis**

AREA Eight, Oakland
Districts

- **Albuquerque**
- **Denver**
- **Los Angeles**
- **Portland**
- **San Antonio**
- **San Diego**
- **San Francisco**
- **Seattle**

APPENDIX B

RFP ANNUAL SCHEDULE FOR MAINTENANCE PLAN ACTIONS

Dates	Task
Continuous	HQUSACE/JRFC/OASD/Districts have access to RFMIS to input status, review for financial management and execution
05 Each Month	Corps Districts input status into RFMIS on RFMP, RFEP, and RFRP due
01 OCT	Districts begin implementing current FY Recruiting Facilities Programs (RFMP, RFEP, and RFRP)
01 NOV	Window begins for Services to add Unaccomplished Actions from previous FY in current FY and delete Actions on current FY programs that were accomplished in previous FY but were not part of the approved previous FY programs
15-19 NOV	First Quarter JRFC Meetings
30 NOV	Window ends for Services (Official approved FY current Recrutiing Facilities Program - 95% Goal is based on these Actions
17-31 JAN	Services input Future FY RFMP, RFEP, and RFRP into RFMIS to be costed out by Corps Districts (Program Call)
01-15 FEB	Districts input cost estimates of Future FY RFMP, RFEP, and RFRP into RFMIS
16 FEB	Cost estimates available to Services via RFMIS
07-12 MAR	Second Quarter JRFC Meetings (Mid-Year Review)
13 MAY	Districts begin Division Collocation Meetings Cycle
15 MAY	End Division Collocation Meetings
08-12 AUG	Fourth Quarter JRFC Meetings (Coordinate/Validate Future FY Programs)
16 AUG	Services make final changes to Future FY RFMP RFEP, and RFRP in RFMIS
30 SEP	Completion of Current FY RFMP RFEP, and RFRP Programs

APPENDIX C

SAMPLE OF RFMIS REPORTS, SCREENS AND OUTPUTS

Standard Reports

The REPORTS GENERATION MENU (RFM3) provides users an automated means to generate standard RFMIS reports.

Current RFMIS reports include the following:

- Planned Action - Location
- Planned Action - Cost
- Planned Action - FY
- Facility List
- Table List
- P8 (Corps)
- Tool Box Reports

Planned Action - Location Report

The Planned Action - Location Report is designed to list the various FY RFP Actions proposed for Recruiting Facilities for a given Fiscal Year. Facility Information is then reported by Facility Number for each Lease.

After the report is finished, the generated report listing will be stored in your UNIX home directory at SAD41 in a file called planact.lis. See the section **Transferring Files From the Remote Host** earlier in this chapter for downloading and printing instructions.

Planned Action - Cost Report

The Planned Action - Cost Report is designed to list the various FY RFP Actions proposed for Recruiting Facilities for a given Fiscal Year and compare current working estimates with actual costs. Facility information and related cost data are then reported by Facility Number for each Lease.

Planned Action By FY Report

The Planned Action by FY Report is designed to list the various **FY RFP** Actions proposed for Recruiting Facilities for a given Fiscal Year. Facility information is reported by fiscal year for each lease.

Facility List Report

The Facility List Report is designed to show general information about a Recruiting Facility and all associated operating costs. The information is presented by District, Fiscal Year, Facility Number and Lease and/or Contract number.

After the report is finished, the generated report listing will be stored in your Unix home directory in a file called faclist.lis. See the section **Transferring Files From the Remote Host** earlier in this chapter for downloading and printing instructions.

Table List Report

The RFMIS Table List Report is designed to create a formatted list of the data contained in the major RFMIS relational data tables. The information is presented in order of the key fields in each table (usually the `Lease number` or the `Facility number`). One use for these reports is to report ALL records in a table for evaluation of the completeness of the data in a user's database.

After the report is finished, the generated report listing will be stored in your Unix home directory in a file called tablist.lis. See the section **Transferring Files From the Remote Host** earlier in this chapter for downloading and printing instructions.

P8 Report

The P8 Report is designed to provide a means of assessing financial requirements for a given Fiscal Year for the Recruiting Program. The report compares program budget guidance and the projected costs of existing and new programs. Financial information is presented separately for GSA and Non-GSA Corps amounts.

After the report is finished, the generated report listing will be stored in your Unix home directory in a file(s) called p8.lis and/or p8detail.lis. See the section **Transferring Files From the Remote Host** earlier in this chapter for downloading and printing instructions.

Refer to section 4.2.7 of the **RFMIS End User Manual** for detailed instructions, including information concerning parameters.

QUERY10X SQL

This query will generate a report of all recruiting facilities in RFMIS showing the associated lease linkage. The report is arranged by recruiting command and location (district, state, city, address).

The user is prompted for the facility status, military service, and facility group.

QUERY10Y SQL

This query will generate a report of all recruiting facilities in RFMIS showing the associated lease linkage. The report is arranged by recruiting command and facility RSID.

The user is prompted at run time for facility status, military service, and facility group.

QUERY4 SQL

This query will report detail contract records which are summarized in the P8 report section for "SERVICE COST" for the existing program. It can be used to validate P8 data in the report until a validation report is available. The types of contract records reported in the report are: C,G,S,T,U,W.

QUERY4A SQL

This query will report detail contract records which are summarized in the P8 report section for "ADDITIONAL COST" for the existing program. The types of contract records reported in this report are: N,B,A,I,M,R,O,E,J,P.

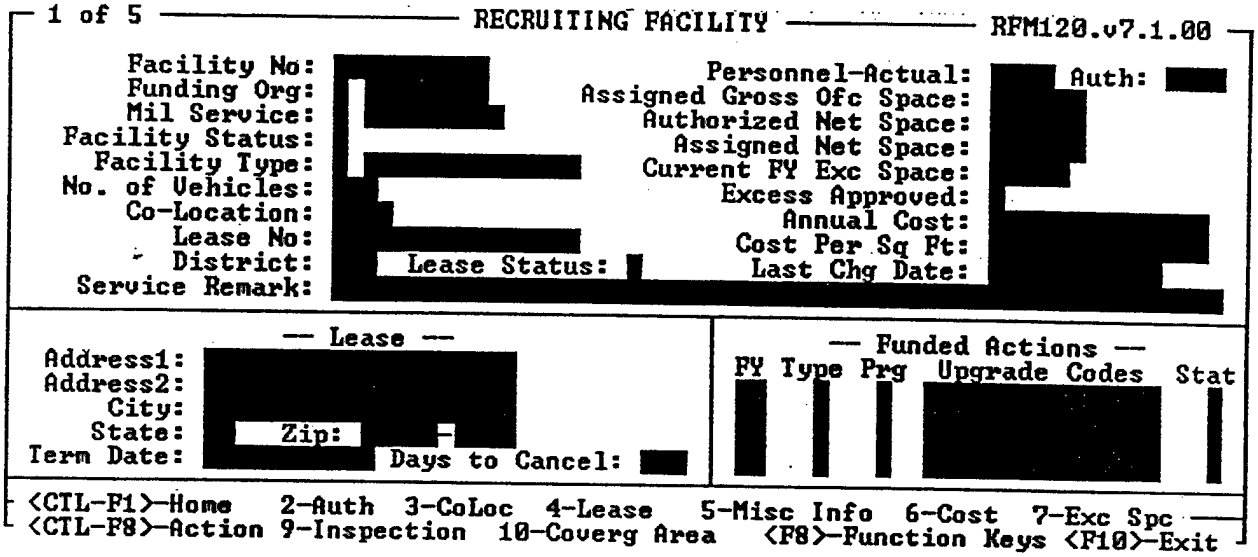
RENEW2 SQL

This query will create a detail report of leases which are expiring within a specified time period. An analysis of this report can be used to determine the disposition of items on the report. For example, whether the lease will be renewed, terminated, or relocated.

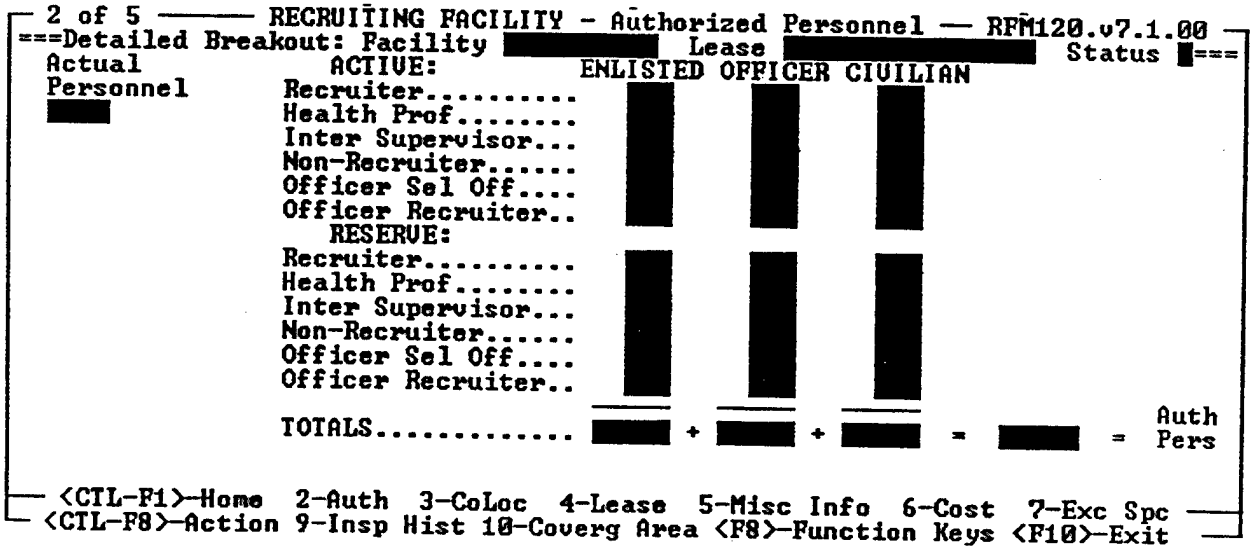
The US Army Corps of Engineers
Recruiting Facilities Management Information System
RFMIS
ESSAYONS

Facility Related Screens

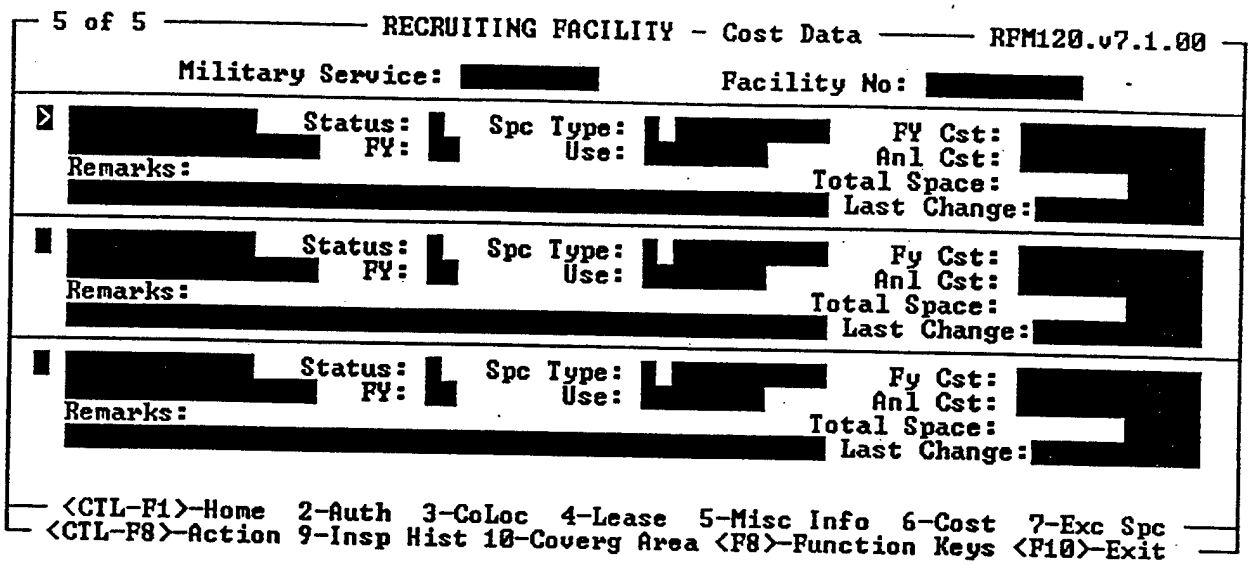
The Recruiting Facility Screen



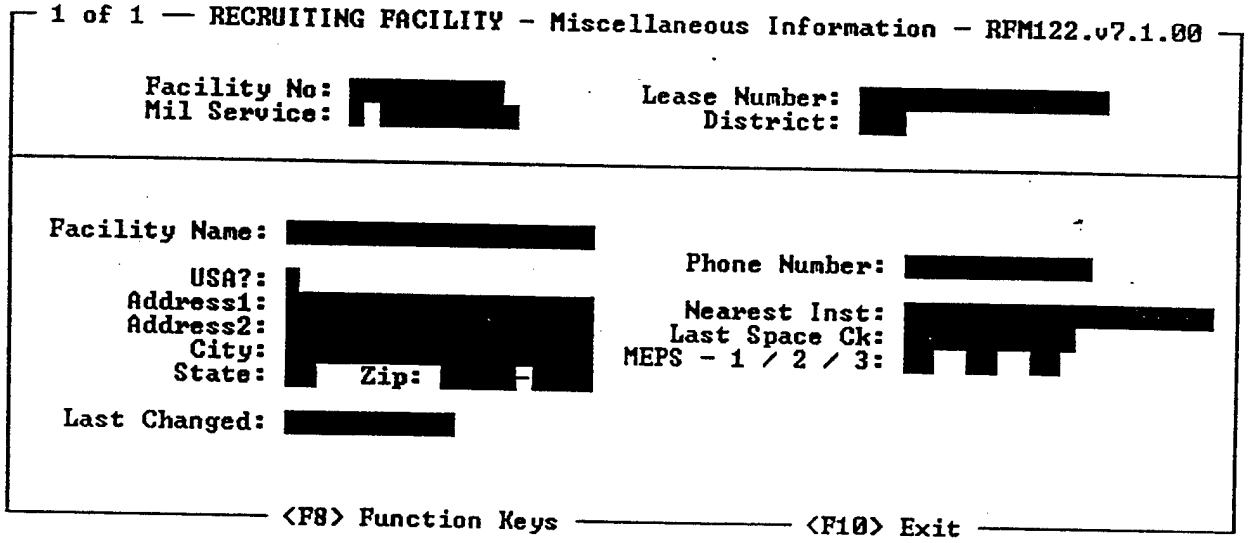
Page 2 Authorized Personnel



Page 5 Cost Data



Miscellaneous/Information



ACTIVE RECRUITING FACILITIES BY LOCATION AND TYPE

Rundate: 02-MAY-97

(Query Name: MUNOZ3.SQL)

STATE	CITY	ADDRESS	ZIP	DIST	LEASE NUMBER	FACILITY NUMBER	NAVY RECRUITING DISTRICT	FACILITY TYPE	Auth pers	LEASE COST	CONTRACT COST	SVC COL
CT	ENFIELD	77 HAZARD AVE	06082	NAN	DACA515960008400	10290702	New England	INTERMEDIATE	2	$4,836.00	$155.00	AN M
		77 HAZARD AVENUE	06082	NAN	DACA515960016000	10290101	New England	FULL-TIME	1	$7,490.04	$.00	N
	HARTFORD	233 PEARL ST	06103	NAN	DACA515970007700	10209500	New England	FULL-TIME	21	$26,313.69	$4,666.67	ANFM
	NEW LONDON	78 HOWARD STREET	06320	NAN	DACA515930008300	10215500	New England	FULL-TIME	15	$7,696.00	$1,286.96	ANFM
ID	COEUR D'ALENE	112 FOURTH ST	83814	NPS	DACA675970011300	83912000	Seattle	FULL-TIME	6	$13,690.30	$.00	ANFM
	LEWISTON	1618 IDAHO ST	83501	NPS	DACA675940014900	83920000	Seattle	FULL-TIME	2	$4,500.00	$.00	ANFM
	MOSCOW	1840 W PULLMAN	83843	NPS	DACA675960018000	83926500	Seattle	FULL-TIME	8	$5,686.14	$3,050.59	AN M
MA	BEVERLY	434 RANTOUL ST	01915	NAN	DACA515880020200	10228000	New England	FULL-TIME	12	$7,579.00	$5,603.61	NFM
	BOSTON	44 WINTER ST	02108	NAN	000001B000332100	10205000	New England	FULL-TIME	10	$11,585.93	$15,635.29	ANFM
		BARNES BLDG	02210	NAN	W15A9X-96091-802	10200000	New England	MAIN-STA	82	$252,799.03	$.00	N
	BROCKTON	165 WESTGATE DRIVE	02401	NAN	DACA515960005400	10206000	New England	FULL-TIME	5	$19,387.41	$.00	ANFM
	DORCHESTER	2258 DORCHESTER AVE	02122	NAN	DACA515960009600	10234700	New England	FULL-TIME	14	$9,120.00	$13,119.00	N
	FALL RIVER	101 PRESIDENT AVENUE	02720	NAN	DACA515950002300	10208000	New England	FULL-TIME	10	$7,685.01	$4,746.07	NFM
	FITCHBURG	532 MAIN ST	01420	NAN	DACA515940002800	10209000	New England	FULL-TIME	20	$7,171.88	$4,626.99	NFM
	FRAMINGHAM	66 UNION AVE	01701	NAN	DACA515970014200	10210000	New England	FULL-TIME	4	$8,899.50	$.00	ANFM
						10290602	New England	INTERMEDIATE	2	$5,723.60	$.00	ANFM
	GREENFIELD	41 FEDERAL ST	01301	NAN	DACA515950009600	10252299	New England	PART-TIME	0	$3,626.67	$3,001.67	AN M
	HOLYOKE	AMES HOLYOKE PLAZA	01040	NAN	DACA515960002000	10205300	New England	FULL-TIME	9	$12,974.00	$1,437.12	ANFM
	HYANNIS	78 NORTH STREET	02601	NAN	DACA515880014600	10211100	New England	FULL-TIME	6	$3,926.00	$454.71	ANFM
	LOWELL	101 MIDDLE STREET	01845	NAN	DACA515950002200	10213000	New England	FULL-TIME	8	$7,770.00	$768.00	ANFM
	MALDEN	143 EXCHANGE ST	02148	NAN	DACA515950011100	10214500	New England	FULL-TIME	2	$9,116.80	$.00	N M
	MILFORD	118 MAIN ST	01757	NAN	DACA515940008500	10216800	New England	FULL-TIME	4	$4,168.98	$5,167.18	AN
	NEW BEDFORD	43 TOWER DRIVE	02740	NAN	DACA515920016100	10218000	New England	FULL-TIME	4	$5,626.00	$323.23	ANFM

APPENDIX D

AREA EIGHT ESTIMATES FOR SELECTED RECRUITING STATION COSTS

			Navy Recruiting Area EIGHT								
			Navy Recruiting Stations Costing Data								
	Description	Two	Monthly		Estimate	Three		Estimate	Five		Estimate
	Of Requirements	Man Station	Cost	Qty	Cost	Man Station	Qty	Cost	Man Station	Qty	Cost
	Recruiter's OPE @ 75.00	***Monthly Cost***	75	2	150		3	225		5	375
								-			-
	Vehicles .75 Ratio		350	1	350		2	700		4	1,400
								-			-
	Telephone .85 Ratio		205	4	820		4	820		4	820
								-			-
**	Equipment	***LCM***						-			-
		Dest Top Computer	2,200	1	2,200		3	6,600		4	8,800
		Lop Top Computer	2,800	2	5,600		3	8,400		5	14,000
		Copier	1,885	1	1,885		1	1,885		1	1,885
		Answering Machine	120	2	240		1	120		1	120
		Typewriter	400	1	400		1	400		1	400
		Laser Printer	1,300	1	1,300		1	1,300		1	1,300
**	Furniture				-			-			-
		Desks	900	2	1,800		3	2,700		5	4,500
		Chairs	300	4	1,200		6	1,800		10	3,000
		Coffee Tables	120	1	120		1	120		2	240
		Couch	1,200	1	1,200		2	2,400		3	3,600
		Monthly Cost									
	Lease Contract		825	12	9,900	3,000	12	36,000	5,000	12	60,000
	Janitorial Services		75	12	900	90	12	1,080	120	12	1,440
	Miscellanious Supplies		125	12	1,500		12	1,500		12	1,500
	Total		12,880		29,565			66,050			103,380

1. The test was taken from all 8 district Recruiting Stations randomly.
2. Keep in mind the configuration of our district also. Distance between RS in Los Angeles is 68% shorter than Seattle or Portland as an example.
3. Denver and San Antonio's cost for applicant travel are much higher than the other six districts because they bus or fly their applicant.

**One-time initial set up costs

Navy Recruiting Area EIGHT Breakdown of District Navy Recruiting Stations									
District	Two Man Station	Est. Cost Per Station	Three Man Station	Est Cost Per Station	Five man Station	Est Cost Per Station	Total Number Stations	Estimate Cost Per District
	12,880		29,565		66,050		108,495	
Denver	8	103,040	11	325,215	7	462,350	26	2,820,870
Albuquerque	10	128,800	10	295,650	8	528,400	28	3,037,860
Los Angeles	6	77,280	23	679,995	14	924,700	43	4,665,285
Portland	14	180,320	13	384,345	6	396,300	33	3,580,335
San Francisco	10	128,800	16	473,040	11	726,550	37	4,014,315
Seattle	13	167,440	13	384,345	7	462,350	33	3,580,335
San Diego	13	167,440	16	473,040	17	1,122,850	46	4,990,770
San Antonio	6	77,280	6	177,390	18	1,188,900	30	3,254,850
Total	80	1,030,400	108	3,193,020	88	5,812,400	276	29,944,620

APPENDIX E

SAMPLE COST REPORT FOR NRS COEUR D'ALENE

NRS Coeur D'alene, ID RSID 83912000 3 person office

Lease: 381 sqft x $1.18/sqft x 12 months = $5394.96/yr
includes janitorial, utilities, parking

Vehicles: 3 x $341.56/mo avg x 12 mo = $12296.16/yr
no accidents

Telephones: local - $161.82/mo avg x 12 mo = $1941.84/yr
long distance $162.92/mo avg x 12 mo = $1955.04/yr
FTS - $135.25/mo avg x 12 mo = $1623.00/yr
Total telephones per year: $5519.88

Copier: Navy owned Monroe
Maintenance - $21.67/mo x12 mo = $260.04/yr

Business cards: estimate 2MX/yr/recruiter - $24.32 x 3 x 2 = $145.9

OPE: avg $68.55/mo/rec - $68.55 x 3 x 12 = $2467.80/yr

Postage stamps:

General supplies:

ADP supplies:

TOTAL NRS COST (excluding lease): $20689.80

APPENDIX F

QUARTERLY FISCAL YEAR TO DATE (FYTD)
STATION GOAL REPORT (NRD SAN FRANCISCO)

ASAD FY-94	ASAD FY-95	ASAD FY-96	ASAD FY-97	NUM	NRS	MKT	RAF	RAF	96	97	STA	GOAL	NCO	QIS	UMG	B	H	NK	API
						SH	STM	ASAD			RCTR	AVG				UMG	UMG		UMG
34/87 39%	23/64 35%	26/73 36%	16/52 31%	79	CRU	1.02	3.39	1.8	S	S	2	2	14	128	9	0	2	1	0
45/111 40%	34/92 36%	47/88 53%	24/54 44%	99	MAT	1.28	4.82	2.26	S	S	2	2	15	156	11	1	2	3	5
53/105 50%	45/99 45%	47/108 44%	23/49 47%	103	PIN	1.34	4.59	2.37	S	S	2	3	19	190	14	3	6	2	0
37/111 33%	36/117 30%	18/101 18%	20/54 37%	109	LIV	1.41	1.73	2.5	S	S	2	2	16	173	13	1	4	3	4
42/122 34%	33/95 34%	55/119 46%	20/54 37%	111	DAL	1.44	2.99	2.55	S	S	3	3	22	206	13	0	2	2	4
27/125 21%	47/120 39%	50/127 39%	20/54 37%	122	FRE	1.58	2.52	2.8	M	S	3	3	22	217	14	1	5	2	3
38/110 35%	33/125 26%	41/147 27%	30/90 33%	135	MAN	1.75	1.75	3.09	NA	S	4	4	27	263	19	0	6	1	3
34/100 34%	23/160 14%	43/165 26%	20/76 26%	143	EUR	1.86	1.52	3.29	S	S	3	3	24	235	17	1	2	2	3
55/139 39%	60/139 43%	58/123 47%	30/80 38%	137	ANT	1.78	2.01	3.15	M	S	3	3	20	199	14	1	4	2	4
40/127 31%	49/145 33%	50/163 31%	14/59 24%	141	FAL	1.83	1.14	3.24	S	S	1	2	16	150	10	0	2	1	2
65/139 46%	59/142 41%	57/144 40%	32/89 36%	147	HAY	1.91	2.33	3.38	M	M	3	4	29	280	18	7	2	2	4
28/125 23%	39/155 25%	60/191 31%	23/96 24%	162	RAN	2.1	1.19	3.72	S	M	3	4	28	284	20	0	5	4	2
49/146 33%	69/158 43%	70/155 45%	40/81 49%	154	WDL	2	3.42	3.54	S	M	4	4	28	273	17	2	5	3	1
59/164 35%	65/152 42%	78/155 50%	26/77 34%	157	CORY	2.04	3.93	3.61	M	M	4	4	30	295	20	1	7	3	1
43/151 28%	51/161 31%	61/179 34%	49/102 48%	169	SFO	2.19	8.07	3.87	M	M	6	4	29	285	19	6	5	1	2
44/67 32%	69/167 41%	67/146 46%	31/71 44%	129	UKI	1.67	1.44	2.95	S	M	4	3	24	231	18	1	5	1	3
80/175 45%	99/187 52%	81/184 44%	30/79 38%	179	ALA	2.32	6.32	4.11	M	M	5	5	34	319	20	10	1	0	4
52/191 27%	48/201 23%	64/182 35%	24/82 29%	187	YBA	2.43	1.61	4.3	M	M	4	4	26	256	20	1	5	2	0
88/233 37%	52/175 29%	59/169 35%	31/104 30%	195	ALM	2.53	3.97	4.48	M	M	5	5	38	381	27	3	5	4	4
93/213 43%	88/205 42%	70/190 37%	37/107 35%	204	CLA	2.65	9.06	4.69	L	M	4	6	39	389	27	2	8	4	7
55/178 30%	66/223 29%	59/213 28%	32/95 34%	203	MER	2.64	2.6	4.67	M	M	4	5	32	317	23	0	6	3	4
73/225 32%	63/218 28%	62/176 35%	25/89 28%	202	VIL	2.62	2.14	4.64	M	M	4	5	33	318	20	0	7	4	4
82/233 35%	74/201 36%	74/202 37%	45/132 34%	219	SAL	2.84	5.82	5.03	L	M	3	6	40	394	25	3	9	5	2
75/210 35%	97/230 42%	87/184 47%	51/119 43%	212	JOS	2.75	9.59	4.86	L	M	5	6	43	427	29	2	11	2	8
64/220 29%	68/215 59%	67/193 35%	32/103 31%	209	CLO	2.71	4.35	4.8	M	M	4	5	33	318	22	2	8	1	0
100/237 42%	89/229 38%	76/237 32%	50/134 37%	239	VAL	3.1	2.82	5.49	M	M	6	6	40	397	26	3	5	3	7
53/225 20%	84/282 29%	116/323 36%	52/163 32%	284	FAI	3.69	2.32	6.53	M	L	5	6	42	408	29	3	3	3	5
70/235 29%	99/312 31%	97/239 41%	44/120 37%	259	CHI	3.36	2.76	5.95	L	L	4	6	44	412	27	0	6	2	4
89/238 37%	73/278 26%	95/284 33%	50/125 40%	264	ROS	3.43	6.04	6.07	L	L	5	6	44	430	29	3	9	3	3
90/285 31%	82/292 28%	84/285 30%	48/214 22%	307	REN	3.99	4.21	7.06	L	L	5	7	50	489	34	0	7	5	6
89/296 30%	93/296 31%	94/262 36%	50/139 36%	284	FRS	3.69	6.87	6.53	L	L	6	7	51	486	34	5	8	1	3
69/271 25%	86/324 26%	132/386 34%	53/224 24%	337	RED	4.38	2.2	7.75	L	L	6	8	53	507	34	0	6	5	4
133/335 39%	144/354 40%	159/388 41%	54/178 30%	359	STO	4.66	7.13	8.25	L	L	6	7	50	479	32	2	4	3	4
96/336 29%	87/356 24%	94/362 26%	41/170 24%	350	MDO	4.55	5.02	8.05	L	L	5	7	49	470	31	1	8	4	3
95/341 27%	105/379 27%	116/340 34%	52/179 29%	354	VIS	4.6	6.48	8.14	L	L	5	7	48	452	31	0	10	2	2
97/355 20%	121/395 30%	126/356 35%	58/185 31%	369	NOS	4.79	4	8.48	L	L	7	8	58	573	40	9	9	5	4
109/400 27%	134/385 34%	143/363 39%	75/199 38%	385	SOS	5	5.08	8.85	L	L	7	8	56	547	37	8	7	2	8
				7698		99.93		177			154								

APPENDIX G

NRD SAN FRANCISCO RECRUITING STATION COSTS, ACCESSIONS AND CATEGORIZATION

NRD SAN FRANCISCO RECRUITING STATION COSTS (1996)

ZIP	CITY	SQUARE MILES	POP AGE 17-21	SIZE CATEGORY	POP CATEGORY	CLASSIF	LEASE	CONTR	RECRT VEHICLES	COMMS	TOT COSTS	ACCESS	CPA
95926	CHICO-S	6125.2	17581	MEDIUM	DENSE	URBAN	$18,755	$1,114	4	$11,850	$8,280	$39,999	97	$412
95628	FAIR OAKS(NOS)	51.7	11516	SMALL	INTERMED	URBAN	$23,153	$1,355	7	$20,738	$13,248	$58,494	126	$464
94533	FAIRFIELD-S	254.9	5635	SMALL	INTERMED	URBAN	$18,850	$1,508	5	$14,813	$9,936	$45,107	116	$389
95340	MERCED	4261.1	10959	MEDIUM	INTERMED	SUBURBAN	$15,668	$3,072	4	$11,850	$8,280	$38,870	59	$659
95350	MODESTO-S	3119.2	13575	MEDIUM	DENSE	URBAN	$29,405	$3,736	5	$14,813	$9,936	$57,890	94	$616
95670	RANCHO CORDOVA	299.8	9617	SMALL	INTERMED	URBAN	$11,957	$2,632	4	$11,850	$8,280	$34,719	60	$579
89502	RENO-S	10000.0	15377	LARGE	DENSE	SUBURBAN	$23,646	$288	5	$14,813	$9,936	$48,683	84	$580
95661	ROSEVILLE-S	1493.6	9450	SMALL	INTERMED	URBAN	$16,539	$3,608	4	$11,850	$8,280	$40,277	62	$650
95823	SACRMTO (SOS)	612.3	21680	SMALL	DENSE	URBAN	$17,489	$197	7	$20,738	$13,248	$51,672	75	$689
95117	SANTA CLARA	69.2	15272	SMALL	DENSE	URBAN	$16,083	$0	4	$11,850	$8,280	$36,213	70	$517
95401	SANTA ROSA-S	1386.9	15639	SMALL	DENSE	URBAN	$17,725	$1,835	5	$14,813	$9,936	$44,309	95	$466
95207	STOCKTON-M	2196.6	13587	MEDIUM	DENSE	URBAN	$17,883	$4,158	6	$17,775	$11,592	$51,408	159	$323
95482	UKIAH-M	4491.6	5707	MEDIUM	INTERMED	SUBURBAN	$10,193	$197	4	$11,850	$8,280	$30,520	67	$456
94590	VALLEJO	756.9	12929	SMALL	DENSE	URBAN	$16,857	$731	6	$17,775	$11,592	$46,955	76	$618
95991	YUBA CITY-M	2329.5	7550	MEDIUM	INTERMED	SUBURBAN	$19,818	$224	4	$11,850	$8,280	$40,172	64	$628
							$18,268	$1,644		$14,616	$9,826	$44,352	87	$536

NRD SAN FRANCISCO 15 STATIONS COSTS (1996)

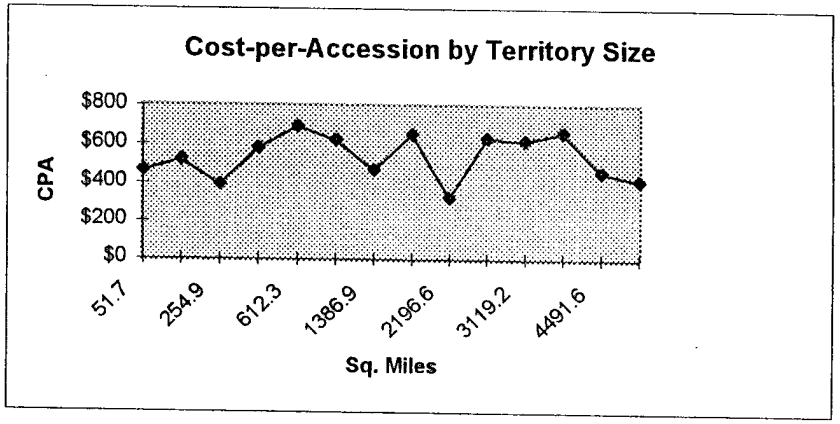
average total costs: $44,352

average lease costs: $ 18,268
average mtce.contract costs: $ 1,644
average vehicle costs: $ 14,615
average comms costs: $ 9,826

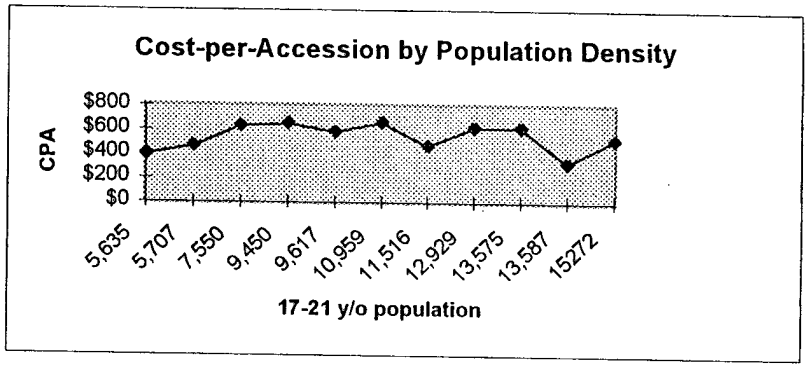
average cost-per-accession (CPA): $636

NRD SAN FRANCISCO STATION COSTS (1996)
Cost-per-Accession Analysis

CITY	SQUARE MILES	CPA
FAIR OAKS (NO	51.7	$464
SANTA CLARA	69.2	$517
FAIRFIELD-S	254.9	$389
RANCHO CORD	299.8	$579
SACRMTO (SOS	612.3	$689
VALLEJO	756.9	$618
SANTA ROSA-S	1386.9	$466
ROSEVILLE-S	1493.6	$650
STOCKTON-M	2196.6	$323
YUBA CITY-M	2329.5	$628
MODESTO-S	3119.2	$616
MERCED	4261.1	$659
UKIAH-M	4491.6	$456
CHICO-S	6125.2	$412
RENO-S	10000.0	$580



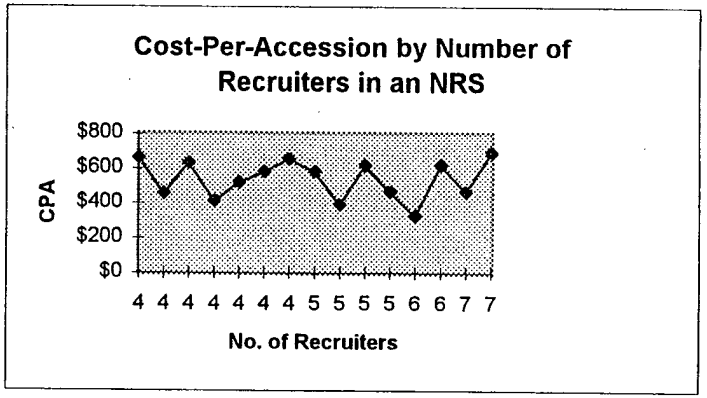
CITY	POP	CPA
FAIRFIELD-S	5,635	$389
UKIAH-M	5,707	$456
YUBA CITY-M	7,550	$628
ROSEVILLE-S	9,450	$650
RANCHO CORD	9,617	$579
MERCED	10,959	$659
FAIR OAKS (NO	11,516	$464
VALLEJO	12,929	$618
MODESTO-S	13,575	$616
STOCKTON-M	13,587	$323
SANTA CLARA	15272	$517
RENO-S	15,377	$580
SANTA ROSA-S	15,639	$466
CHICO-S	17,581	$412
SACRMTO (SOS	21,680	$689



NRD SAN FRANCISCO STATION COSTS (1996)

Cost-Per-Accession Analysis

CITY	# RECRT	CPA
MERCED	4	$659
UKIAH-M	4	$456
YUBA CITY-M	4	$628
CHICO-S	4	$412
SANTA CLARA	4	$517
RANCHO CORDC	4	$579
ROSEVILLE-S	4	$650
RENO-S	5	$580
FAIRFIELD-S	5	$389
MODESTO-S	5	$616
SANTA ROSA-S	5	$466
STOCKTON-M	6	$323
VALLEJO	6	$618
FAIR OAKS (NOS	7	$464
SACRMTO (SOS)	7	$689



NRD SAN FRANCISCO RECRUITING STATIONS BY STATION CLASSIFICATION

NRD SAN FRANCISCO RECRUITING STATIONS BY STATION CLASSIFICATION

NRD CAT	ZIP	CITY	SQUARE MILES	POP SIZE 17-21	TERRITOR SIZE	POP CAT.	STATION CLASS.	LEASE COST	CONTRACT COST	# RECRT
L	89502	RENO-S	10000.0	15,377	LARGE	DENSE	SUBURBAN	$23,646	$288.00	5
M	95340	MERCED	4261.1	10,959	MEDIUM	INTERMED	SUBURBAN	$15,668	$3,072.00	4
M	95482	UKIAH-M	4491.6	5,707	MEDIUM	INTERMED	SUBURBAN	$10,193	$197.00	4
M	95991	YUBA CITY-M	2329.5	7,550	MEDIUM	INTERMED	SUBURBAN	$19,818	$224.00	4
L	95926	CHICO-S	6125.2	17,581	MEDIUM	DENSE	URBAN	$18,755	$1,114.00	4
L	95628	FAIR OAKS (NOS)	51.7	11,516	SMALL	INTERMED	URBAN	$23,153	$1,355.00	7
L	94533	FAIRFIELD-S	254.9	5,635	SMALL	INTERMED	URBAN	$18,850	$1,508.00	5
L	95350	MODESTO-S	3119.2	13,575	MEDIUM	DENSE	URBAN	$29,405	$3,736.00	5
M	95117	SANTA CLARA	69.2	15272	SMALL	DENSE	URBAN	$16,083	$0	4
L	95401	SANTA ROSA-S	1386.9	15,639	SMALL	DENSE	URBAN	$17,725	$1,835.00	5
L	95207	STOCKTON-M	2196.6	13,587	MEDIUM	DENSE	URBAN	$17,883	$4,158.00	6
M	95670	RANCHO CORDOVA	299.8	9,617	SMALL	INTERMED	URBAN	$11,957	$2,632.00	4
M	95661	ROSEVILLE-S	1493.6	9,450	SMALL	INTERMED	URBAN	$16,539	$3,608.00	4
M	94590	VALLEJO	756.9	12,929	SMALL	DENSE	URBAN	$16,857	$731.00	6
L	95823	SACRMTO (SOS)	612.3	21,680	SMALL	DENSE	URBAN	$17,489	$197.00	7

Territory Size (sq.mi.):
Small (>18 sq mi)
Medium (>2190 sq mi)
Large (> 9710 sq mi)

Pop. Category (# of 17-21 year olds):
Dense (>12000)
Intermediate(>3500)
Sparce (>15)

Classification (territory & pop.):
Suburban: small & sparce; lg & dense; and,med.&intermed
Urban: small & intermed; med &dense; and,small & dense
Rural: large & sparce

NRD SAN FRANCISCO 15 STATIONS COSTS (1996)

average total costs:		**$44,352**
average lease costs:	$ 18,268	
average contract costs:	$ 1,644	
average vehicle costs:	$ 14,615	
average comms costs:	$ 9,826	
average cost-per- accession:		**$536**

NRD SAN FRANCISCO RECRUITING STATIONS BY STATION CLASSIFICATION (CONT.)

VEH COSTS	COMMS COSTS	TOT COSTS	TOT ACCESS	Cost per ACCESS	CITY CITY
$14,813	$9,936	$48,683	84	$580	RENO-S
$11,850	$8,280	$38,870	59	$659	MERCED
$11,850	$8,280	$30,520	67	$456	UKIAH-M
$11,850	$8,280	$40,172	64	$628	YUBA CITY-M
$11,850	$8,280	$39,999	97	$412	CHICO-S
$20,738	$13,248	$58,494	126	$464	FAIR OAKS(NOS)
$14,813	$9,936	$45,107	116	$389	FAIRFIELD-S
$14,813	$9,936	$57,890	94	$616	MODESTO-S
$11,850	$8,280	$36,213	70	$517	SANTA CLARA
$14,813	$9,936	$44,309	95	$466	SANTA ROSA-S
$17,775	$11,592	$51,408	159	$323	STOCKTON-M
$11,850	$8,280	$34,719	60	$579	RANCHO CORDOVA
$11,850	$8,280	$40,277	62	$650	ROSEVILLE-S
$17,775	$11,592	$46,955	76	$618	VALLEJO
$20,738	$13,248	$51,672	75	$689	SACRMTO (SOS)

NRD SAN FRANCISCO URBAN AND SUBURBAN STATION COST DATA (1996)

SUBURBAN				URBAN		
Costs	Access.	CPA		Costs	Access.	CPA
$48,683	84	$580		$39,999	97	$412
$38,870	59	$659		$58,494	126	$464
$30,520	67	$456		$45,107	116	$389
$40,172	64	$628		$57,890	94	$616
				$36,213	70	$517
				$44,309	95	$466
				$51,408	159	$323
				$34,719	60	$579
				$40,277	62	$650
				$46,955	76	$618
				$51,672	75	$689
$158,245	274		**Total Costs and Accession**	$507,041	1030	
$39,561	69	$580	**Avg costs and Accession**	$46,095	94	$520

Summary:

Urban NRS costs:

Total	$507,000
Avg	$46,000
Cost-per-accession:	$520

Suburban NRS costs:

Total	$158,000
Avg	$40,000
Cost-per-accession:	$580

LIST OF REFERENCES

1. McKinnon, William T., "Contract Cost Effectiveness Proof of Concept Study." MEMORANDUM FOR ALL Members, Joint Task Force on Determining the Location and Manning of Recruiting Stations. January 1997.

2. Naval Postgraduate School (NPS), "Analysis of Recruit Station Location," research proposal for OSD (R&P), Monterey, CA. January 1997.

3. Systems Research and Applications (SRA) Corporation, "Recruiting Station and Recruiter Location Methodology (Draft Report)," Arlington, Virginia. July 1996.

4. United States General Accounting Office Report the Honorable David Pryor, U.S. Senate. "Military Recruiting: More Innovative Approaches Needed," December 1994.

5. Interview with MAJ William McKinnon, USA, United States Recruiting Command (USAREC) Joint Task Force, Ft Knox, Kentucky, of 10 March, 1997.

6. Kearl, E., *"Market Segmentation, Senior v. Grad Markets."* Presentation for the Joint Marketing And Recruiting Conference (JMARC), San Diego, California. March 1997.

7. Kearl, E., *"Navy Recruiter Incentive System."* Presentation for the Joint Marketing And Recruiting Conference (JMARC), San Diego, California. March 1997.

8. Kang,K. and Terasawa, K., *"Quota Based Recruiting System and Bonus Incentive Recruiting Model."* Technical Report , Naval Postgraduate School, Monterey, California. October 1996.

9. Lawphongpanich, S.,Rosenthal, R. and Schwartz, G. *Location-Allocation Model for Naval Recruiting Stations (New Jersey and New York Districts).* Technical report. Naval Postgraduate School, Monterey California. December 1992.

10. Rolston, T.W., "The Optimal Location of Coast Guard Recruiting Offices" Masters Thesis, Naval Postgraduate School, Monterey, California. September 1984.

11. Lyman, K. *"Profile of an Army Applicant: Lifestyle Segmentation Brief."* Presentation for the Joint Marketing And Recruiting Conference (JMARC), San Diego, Ca. March 1997.

12. Interviews with Dr. Edward Kearl, Commander, Navy Recruiting Command (CNRC code-20), 27 Feb and 3 April, 1997.

13. Interview with CDR Morgan, USN, Comptroller, Commander, Navy Recruiting Command (CNRC code-014), 12 March, 1997.

14. Interview with LT Sean, USN,CEC, Commander, Navy Recruiting Command (CNRC code-10), 18 March and 31 April, 1997.

15. Interview with Mr Bruce Parsons, Commander, Navy Recruiting Command (CNRC code-0141B), 11 April, 1997.

16. Interview with Ms Ilene Bryan, Commander, Navy Recruiting Command (CNRC code-0141B) of 11 April, 1997.

17. Interview with Mr Rich Van Meter, Commander, Navy Recruiting Command (CNRC code-20B), March, 1997.

18. Keystone Solutions Incorporated, Recruiting *Facilities Management Information Systems (RFMIS) End Users Handbook Prepared for the US Army Corps of Engineers (USACE)*. Huntsville, Alabama. January, 1994.

19. Interview with Ms Navin, Navy Recruiting Area One, Budget Officer of March and April 1997.

20. Interview with Mr Kiser, Navy Recruiting Area Three, Budget Officer of March and April 1997.

21. Interview with Ms Buck, Navy Recruiting Area Five, Budget Officer of March and April 1997.

22. Interview with Mr Acda, Navy Recruiting Area Eight, Budget Officer of March and April, 1997.

23. Interview with Mr D. Smith, Army Corps of Engineers, RFP Program Manager of 31 April, 1997.

24. Interview with Mr Hartman, Army Corps of Engineers, RFP, Budgeting Office of 31 April, 1997.

25. Interview with Mr Hoke, Chairman, Joint Recruiting Facilities Committee (JRFC), of 5 May, 1997.

26. *Practical Comptrollership Manual*, Naval Postgraduate School, Monterey CA. March 1996

27. *The Chicago Project*, US Army Corps of Engineers, Louisville District report of February, 1997.

28. CNRC FY 1997 Recruiting Budget developed by CDR Morgan and LT Volknight CNRC code-01(Comptroller).

29. Huzar,C. *Profiling Market Potential for Navy Recruiting at the Local Geographical Level*, Masters Thesis, Naval Postgraduate School, Monterey California,

30. Interviews with NRD,San Francisco CO, XO and EPO of May 1997.

31. Interview with Ms Bjornsen, Prudential Realtor, of 12 May 1997.

32. RFMIS Special Query Language (SQL) Cost Report for NRDs Seattle, New England, New York and San Francisco dated 2 May 1997.

33. Interview with Ms. Janet Marks, Supply Officer, NRD Seattle, of 23 May 1997.

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