AD-A030 142

Evaluation of the Navy Master Planning Program

San Jose State Univ Calif Dept of Urban and Regional Planning

May 76

EVALUATION OF THE NAVY MASTER PLANNING PROGRAM

A Planning Report

Presented to

The Faculty of the Department of

Urban and Regional Planning

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Urban Planning

by

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May 1976

Approved by the Department of
Urban and Regional Planning

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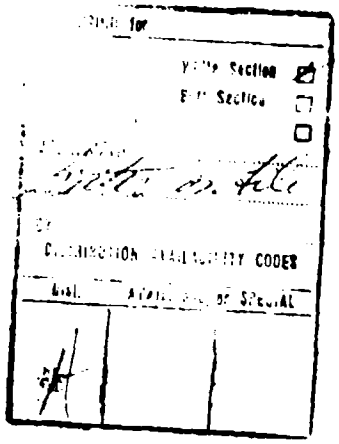

SYNOPSIS

The history of facilities master planning in the U. S. Navy dates back 150 years. In 1825, Secretary of the Navy Samuel Southard noted with alarm the rapidly deteriorating state of the nation's Naval yards and recommended an urgent program of planning for their restoration. Although this proposal was carried out, the succeeding maintenance of the yards has been frustrated by a succession of encumbering circumstances. The cycle of national conflict, marked by accelerated development; and intervening periods of peace, characterized by relative somnolence; has burdened the Navy with a physical plant that was, for the most part, sporadically conceived, hastily built, and destined for ultimate neglect. The present result is a vast inventory of facilities which are chaotically arranged and are largely obsolete, unsightly, and even unsafe.

The rapid nationwide urbanization following World War II has compounded the problem as the Navy is the "urbanite" of the armed services. It is not only the most visible arm of the military, but is being hemmed in by urban development at every coastal port location. Further

problems have emerged in recent years with the sweeping growth of social and environmental concern. The Navy is now obliged to set a good example amid a host of constraints and, since we are in a period of relative peace, with diminishing economic resources.

While master planning got an early start in the Navy, it did not constitute a dedicated program until 1952, when the Master Shore Station Development Program (MSSDP) was initiated. This effort lasted eight years and was finally abandoned as a failure, being declared unrealistic ineffective and unmanageable.

Facilities planning became systematized in the Navy in 1960 when the Shore Facilities Planning and Programming System (SFPPS) was instituted as a component of the Defense Department's well-known Planning, Programming, Budgeting System (PPBS). This system is still in operation and has been quite successful in defining and quantifying facilities requirements of Naval and Marine Corps installations, and in programming for their satisfaction through the Military Construction Program.

The SFPPS did not specifically provide for facilities master planning, however, being primarily quantitative in nature. The Navy's first dedicated master planning directive was issued in June 1968, calling

for a master plan to be developed for each major Naval and Marine Corps shore installation and outlining the procedures and content for such plans. The initial directive has been revised several times over the years and has recently been superseded by a more comprehensive instruction. While Navy facilities planning is essentially a technical discipline with a strong physical orientation, the need for a qualitative approach, considering social and environmental factors, as well as efficiency and economy, has been reflected in the current directive.

The objective of this paper is to review the Navy's master planning program, determine its strengths and weaknesses, assess both its value to its beneficiaries and its effectiveness in meeting stated goals and objectives, and recommend means to its improvement. The program has been evaluated on the basis of relative goal attainment, adequacy of required procedures and documentation, output and cost, value and effectiveness, and implications for management. The evaluation was conducted through review of Navy planning directives, interviews with Navy planning personnel, research of applicable literature on planning and program evaluation, and the conduct of a master planning survey which solicited facts and opinions from three groups of program participants and beneficiaries by means of questionnaires.

Most program evaluations compare two or more possible alternatives. This evaluation is focused on a single, established program, thus is closer to a terminal than a formative evaluation. It is actually a progress evaluation in that the program is to continue for an indefinite future. This research has sought ways to alter the program course, if necessary, to reach its goals more direct'..

The major findings and conclusions of the study are:

1. The stated program goals, objectives and policies are either too general or too limited in scope to provide a sound basis for evaluation. The analysis has, therefore, been conducted on the basis of "derived" criteria;

2. There is no clear statement of program purpose in the master planning directives and this has supported an ongoing conflict in ideology between program participants and beneficiaries;

3. The master planning methodology prescribed in the directives is too restrictive to permit needed flexibility in application to varying "real world" situations; furthermore, the master plan documentation prescribed is too extensive to permit timely output with available resources;

4. As a result of growing demands for ancillary planning services, the initial program targets for master plan output, in terms of initial preparation and periodic updating, have not been met. Increased productivity is essential to comply with the program goals and objectives;

5. The total program cost has been estimated, but cannot be meaningfully correlated to program output beyond a simple cost-per-unit comparison. The cost of the program is diminutive, however, in comparison to its potential value in terms of savings;

6. The record of master plan implementation has proven the program highly effective in defining facilities requirements and guiding their realization through construction programming consistent with approved plan concepts. The program has been somewhat ineffective in anticipating and directing the total subsequent physical development of installations; a high percentage of initial master plan projects are eventually dropped and then supplanted with new or substitute projects with resulting non-conformities. The net result is considered positive, but there is considerable room for improvement;

7. The program beneficiaries believe that master planning has not addressed their major perceived needs adequately and that the completed documents are not as useful as they might be. The inadequacy of available planning data is a major constraint to master plan value and effectiveness;

8. A steady increase in planning workload, without a commensurate increase in resources, has impaired the effective management of the master planning program. A growing backlog of unaccomplished workload suggests that means be found to produce and maintain useable master plans more quickly.

Synthesis of these findings led to the fundamental conclusions that (1) master plans take too long to prepare, (2) once prepared, they are too vulnerable to misuse or neglect, and (3) they cannot adequately predict or accommodate unforeseen change. All other factors are peripheral and are included within these. Various solutions have been proposed, but are often either unrealistic or in mutual conflict. Some degree of trade-off is possible, and it could reduce, but not eliminate, these basic problems.

Navy master plans are seen as multi-purpose entities which must address a broad scope of concerns. They also must be flexible, to accept incremental change without degradation of basic concepts.

The conclusion is that the shortcomings of the present approach are attributable to two underlying characteristics which are chronic and which limit the opportunity for program reform. These are visualized as institutional tendencies toward (1) prescriptive planning, which is rigidly focused on a preconceived end-state and which attempts to accomplish more than is realistically possible, or even required, and (2) authoritarian planning, which isolates (and often alienates) the program beneficiaries from the mainstream of planning activity, placing them in a passive and subordinate role.

An integrated planning approach is recommended as the best means to overcome the major shortcomings of the master planning program. The approach comprises three basic elements:

1. Process planning, in which required procedures and initial content are pared down to essentials, resulting in a more compact and generalized plan document which is expanded incrementally and updated on a continuous basis;

2. Policy planning, in which the master planning process and all subsequent planning decisions are based on well-articulated goals and policies for physical development, formulated at all levels of management; and,

3. An expanded planning data base, in which present Naval information systems are both augmented in scope and made readily accessible to Navy planners.

The integrated planning approach is not a radical departure from the current program structure--many of the elements are identical. The

significant differences are in (1) the extent of detail considered (less initially, but augmented over time according to need), (2) the assignment of planning responsibilities (involving the installation as a program "participant" rather than a "beneficiary"), (3) the order of accomplishment (a new sequence based on priority of need and resource availability), and (4) the concept of the master plan as an instrument of Navy policy (a general guide rather than a detailed mandate for incremental decision-making on physical development alternatives).

The integrated planning approach appears to have excellent potential for speeding the production rate of master plans, bolstering their immunity from mistreatment, and increasing their credibility and usefulness. Also, it would tend to minimize the impact of unexpected change which erodes the value of prescriptive planning approaches and thus the confidence that can be placed in the overall program. Moreover, this approach seems to be highly applicable to conduct of broader based planning studies, such as regional complex plans and logistics support systems plans, in which the penalties for misdirection are even more severe.

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PREFACE

There is a long history of master planning for Naval bases in the United States. The following article, extracted from the "Navy Construction Battallion Center Bulletin" of July 1959 and entitled, "MASTER PLANNING, 1825", indicates the first formal recognition of the need, the first direction for action, and the first master planning accomplished by the Department of Defense. Also, it is interesting to note the first departmental recognition of the tendency toward obsolescence, and the need for updating of master plans.

> "Master Planning is no new concept in the history of the naval shore establishment.
>
> "In the annual report of the Secretary of the Navy (Samuel L. Southard), dated 2 December 1825, to the President and transmitted with the President's message to Congress dated 6 December 1825, the following statement is made (American State Papers, Naval Affairs, No. 268):
>
> " 'Other difficulties have arisen, from the present disposition of the building arrangements at our yards. They have, heretofore, been improved by temporary expedients, and the buildings erected and arranged with reference only to existing necessities, and without regard to the future and growing wants of our navy. Many and serious evils have resulted; much public money has been unnecessarily expended; many losses, sustained by the change, removal and alteration of the several erections; timber exposed to decay; stores requiring immense labor to deposit and preserve them; a much larger number of hands required to perform the work; unpleasant, and sometimes injurious delays in fitting out our vessels. It is a mortifying fact, yet there is no doubt of its truth, that one third of the

money expended at our yards has been lost from this cause. The remedy is manifest, and it is earnestly hoped that means may be provided to apply."

Mr. Southard then described a program of planning and construction for the modernization of the Navy's deteriorating shipyards:

" 'A commission of prudent and intelligent officers should be selected, to examine minutely and carefully all our navy yards, and to make a plan for each, suited to its location and the future wants of the service at it; prescribing the building which will be required, and the location and character of each building, together with such improvements in the ground and form of the yard as will be most beneficial. This plan, after being submitted to the Department, and amended if necessary, and approved, should be the guide in all future expenditures.*

" 'The expense of making such a plan, and erecting the buildings necessary to execute it, would cost a large sum of money, and increase the present expense of our naval establishment; but the future saving to the nation, by adopting and pursuing it rigidly, may be counted by hundreds of thousands, perhaps by millions of dollars; and the promptitude which would be created by it in all our works, and especially in the fitting of our vessels, would be felt in the efficiency of every part of the service.' "

Acting on Secretary Southard's proposal, Congress enacted a law directing the President to insure that the Navy yards were examined by a select board of officers, and that plans were prepared for their improvement. After approval of the plans, no deviations were to be made except by Presidential order. Under the President's direction,

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*Emphasis mine.

the planning was accomplished for all Navy yards between May 1827 and some time in 1829. The yards then existant were those at Portsmouth, N.H.; Charlestown, (Boston), Mass.; Brooklyn, N.Y.; Philadelphia, Pa.; Gosport, (Norfolk), Va.; Washington, D.C.; and Pensacola, Florida.

The article concludes with an excerpt from Preble's history, written in 1890:

> "'The plan for the Navy Yard of Charlestown was issued from the Commissioners Office August 11, 1828, and has since governed the improvements in the Yard, with such modifications as have been rendered necessary by the improvements of science, and the changes in the equipments, appliances and construction of vessels of war. Railroads have taken the place of proposed canals, and the introduction of steam, heavy ordnance and iron clads, iron ships, have rendered other changes from the plan necessary.'"

Master planning not only had an early start in the U.S. Navy, it got its direction from the highest executive level. Despite this history, however, there has never been a dedicated, formal evaluation made of the worth or effectiveness of such planning. According to a recent text on program evaluation, "The notion of inefficiency in the federal government is well established in the popular mind."[1] Because of this widespread belief, and the steady demand for graduate research topics, a

federal program which has never been evaluated is something of a rarity. As a result, this research has become more of an original effort than anticipated. It is an inquiry into the status of the work begun by Secretary Southard 150 years ago.

This evaluation was not an easy task, as the material is largely subjective in nature and often sensitive as well. Most evaluations today, as another source claims, "focus on inputs and the management process, rather than on whether the program is accomplishing its intended purposes.[2] This is readily explained when qualitative analysis of a dynamic process is attempted on an essentially empirical basis. The reason for the attempt is that, as the authors continue, "Systematic program evaluations...appear to have considerable potential for providing a much better guide than presently exists for decisions on whether specific programs should be retained, modified, expanded, or dropped."[3]

Information sources for this study were primarily limited to those surviving persons most familiar with the Program, and to articles published in Navy technical journals. Those who have contributed the background data for this paper are hereby acknowledged and thanked for their valuable interest and support. They are:

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[1]Committee for Economic Development, "Improving Federal Program Performance", (New York, N.Y.: CED, 1971) p. 9

[2]Hatry, Winnie & Fisk, "Practical Program Evaluation for State and Local Government Officials", (Washington, D.C.; The Urban Institute, 1973) p. 1

[3]Ibid.

INTRODUCTION

A. OBJECTIVE: The objective of this study is to conduct a critical review and analysis of the Navy's master planning program and to evaluate it in regard to:

1. Its consistency in meeting stated Navy objectives, goals and policies, including the relevance of established procedures and documentation to these ends;

2. Its effectiveness in responding to additional, related concerns as determined by analysis of relevant social, economic and environmental factors;

3. Its performance to date, in terms of master plan output and associated costs;

4. Its capability to provide a usable, effective, quality product or service to its multiple beneficiaries;

5. Its effectiveness in the implementation process; i.e., in guiding subsequent physical development consistent with master plan recommendations;

6. Its adaptability for efficient conduct within the local planning office, considering prevailing management policies and present resources and organizational structure; and,

7. Its implications for conduct of broader-based planning studies; i.e., regional complex plans and logistics support systems plans.

Determine the causes and degrees of success or failure within each of these categories and provide recommendations for improvement of the program.

B. PURPOSE: The Navy's master plan program, originated in 1952, has been modified frequently over the years. This has been in response to: (1) changing conditions and events, both internal and external, in such areas as national economy, military posture, social awareness, environmental concern, and public and intergovernmental relations; and (2) direct observation and monitoring of the program output in terms of master plan quality and the rate of accomplishment.

While the program directives are both explicit and comprehensive as to master planning requirements and procedures, there is no provision for feedback and performance evaluation. As a result, the measure of program value and effectiveness, indeed, even the adequacy of program goals, can only be conjectured.

The purpose of this study is to provide a deeper insight into certain basic concepts which have been debated, without resolution, for almost 25 years. Some of the more salient issues involve questions of:

1. Program Objectives - what are the basic Navy goals and policies which generated a need for master planning and how well have these been complied with? Also, who are the beneficiaries of the program and what are their important needs?

2. Program Directives - how relevant are the prescribed master planning procedures and documentation to fulfillment of beneficiary needs and basic Navy goals and policy?

3. Program Output - how well have master planning accomplishments met the assigned targets, in terms of both quantity and quality?

4. Program Cost - what has master planning cost the Navy to date, and how well have the funds been used?

5. Program Effectiveness - how closely has the implementation process adhered to master plan recommendations, and how good were the recommendations as a guide for subsequent development?

6. Program Management - how effectively can the master planning program be managed, within the scope of available resources and prevailing administrative policies?

These issues are each examined, in turn, in the major part of this paper. It is not the purpose of this study to defend the Navy's master planning program, nor to seek cause for its rejection. The current approach is but the latest in a succession of attempts to maximize the Navy's investment in its shore establishment. Each point of departure in the program structure has resulted from the recognition of changing requirements and of the need to meet them through reform. Since change is in the very nature of things, it is unlikely that any master planning approach can survive for more than a few years. This research is based on the premise that,

only through a better understanding of program strengths and weaknesses - past and present - can better master planning be achieved in the future.

C. APPROACH: This study has been conducted on a four-phase approach:

1. Review of the history and evolution of the Navy's master planning program, noting changes in emphasis or requirements and correlating these with the satisfaction of both stated goals and objectives, and of prevailing additional needs. This has been accomplished through review of available publications, papers and correspondence on the subject, and interviews with persons closely associated with the program.

2. Quantitative analysis of the program's performance in terms of output and cost, and correlation of these with goal attainment and derived benefits. This has been accomplished through review of current statistical data, considering both historical and projected performance.

3. Review and evaluation of the current Navy master plan instruction on the basis of the:

a. Accommodation of expressed and implied Navy policies;

b. Nature and extent of input data, field investigation and interfcce between planners and installation personnel;

c. Method of planning analysis and concept development;

d. Method of plan presentation, review, approval and distribution;

e. Format and contents of plan documentation;

f. Capability of master plans to meet military requirements and installation development needs;

g. Response to impacts from and on the external environment;

h. Capability for orderly and effective plan implementation;

i. Adapcability to use within the local planning office;

j. Implications for broader based planning studies.

This has been accomplished through data research, personal interviews, personal experience, and a survey of opinions from program participants and master plan beneficiaries.

Evaluative criteria have been selected according to the nature of the subject matter analyzed. Normative criteria have been used for measurement wherever possible; in its absence, the evaluation has been made on the basis of substantive inputs collected through the research process and, where all else failed, empirically.

4. Synthesis of findings and conclusions and recommendations for program improvement. This was a rather straightforward process once the components were assembled. It became obvious, however, that not all of the problems uncovered could be solved within a single approach. A number of conflicts were discovered, between program goals and policies, requirements and constraints. Possible tradeoffs were identified and study of these led to the discovery of some underlying causes and effects which limit the opportunities for significant program reform. The concluding recommendations attempt to cope with the most pressing needs of the master planning program without radical departure from established policy or procedures.

PART I. BACKGROUND

A. The Navy Planning Organization

B. Evolution of the Navy Planning System

C. Recent Impacts on the System

D. Comparative Planning Concepts

E. Information Sources

PART I: BACKGROUND

A. THE NAVY PLANNING ORGANIZATION

Naval Facilities Engineering Command has responsibility for the planning, engineering, design, construction and management of all Naval and most Marine Corps shore facilities, worldwide.[1] Specifically, "shore facilities" include real estate, buildings, structures, utilities systems, and certain items of equipment.

NAVFAC, as it is called, is one of five Systems Commands comprising the Naval Materiel Command, which furnishes technical and logistic support to shore activities and the Fleet operating forces.[2] Organization of the Navy Department and the Naval Material Command are shown on Figures 1 and 2.

NAVFAC Headquarters is located in Alexandria, Virginia, and Command responsibilities are discharged through six Engineering Field Divisions, or EFD's, located around the coastal perimeter of the continental United States, and in Hawaii. Smaller branch offices are located in other areas of substantial Naval activity. Locations of the EFD's and their respective geographic areas are shown on Figure 3.

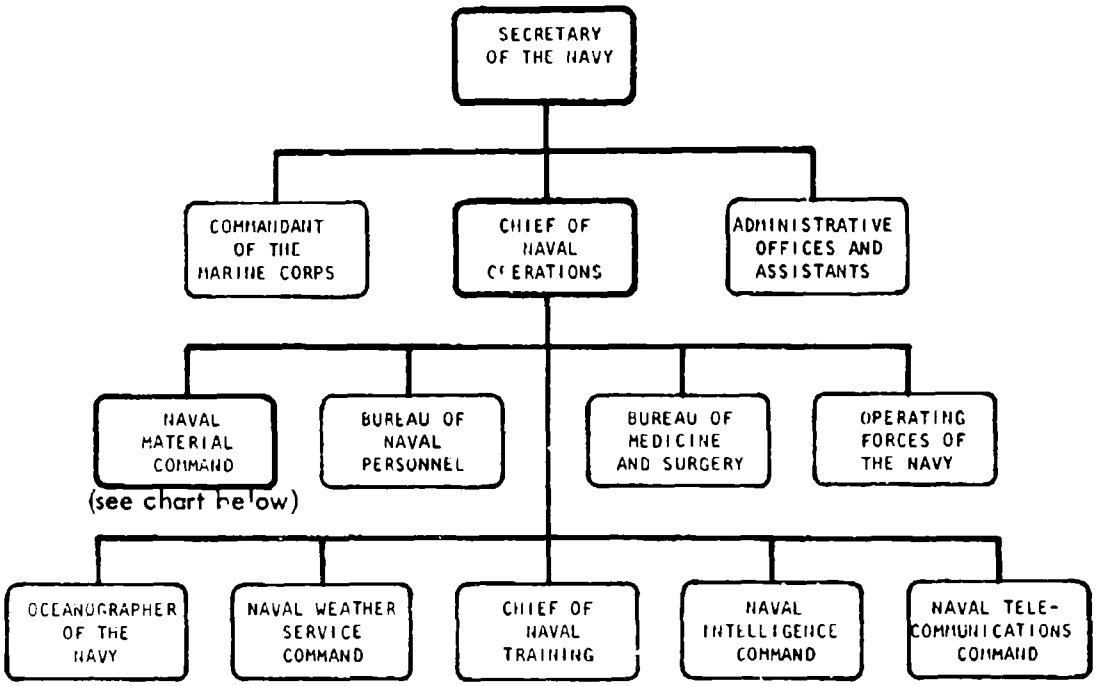

FIGURE 1: ORGANIZATION OF THE DEPARTMENT OF THE NAVY

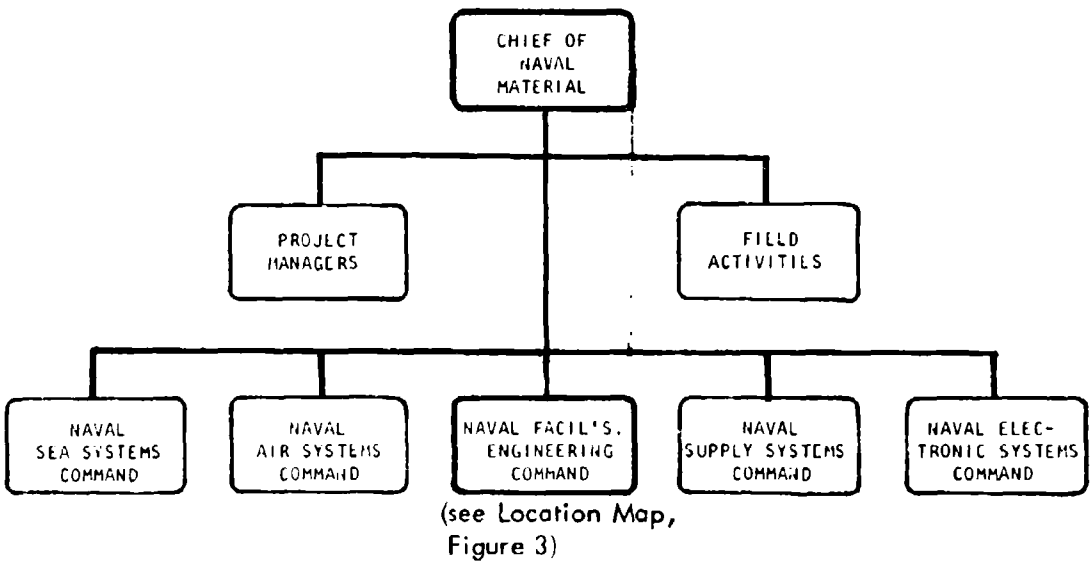

FIGURE 2: ORGANIZATION OF THE NAVAL MATERIEL COMMAND

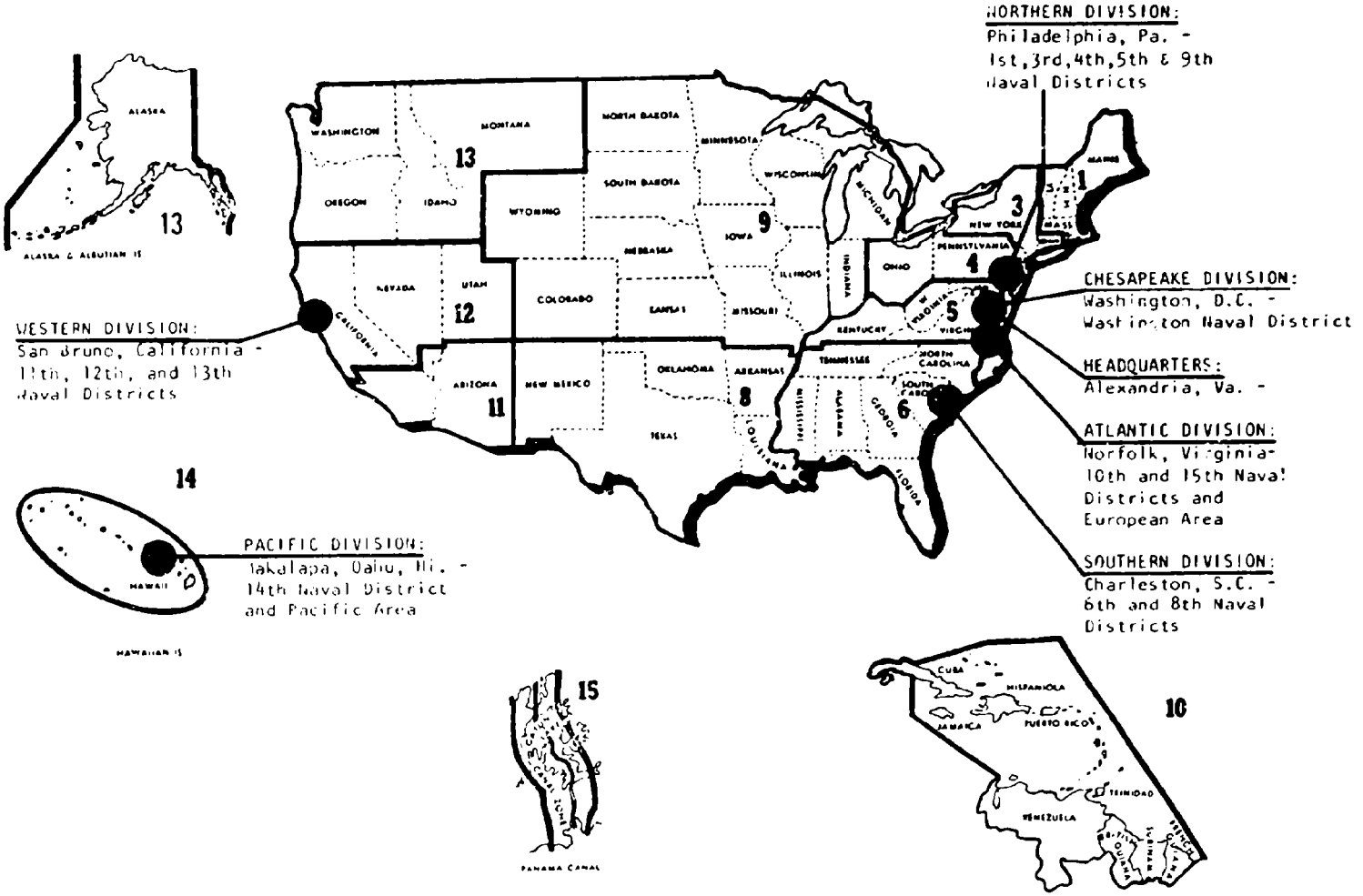

FIGURE 3: LOCATION OF NAVAL FACILITIES ENGINEERING COMMAND

Although geographic factors impose diverse operational requirements on the different EFD's, their organization and functions are substantially uniform. For illustrative purposes, the planning operations at Western Division, or WESTNAVFAC, are described in the following paragraphs. WESTNAVFAC is located in San Bruno, California, and is the largest of the EFD's.

WESTNAVFAC has technical responsibility for all Naval and most Marine Corps shore facilities in the Eleventh, Twelfth and Thirteenth Naval Districts; which include the states of Washington, Oregon, California, Arizona, Nevada, Utah, Idaho, Montana and Alaska. This area embraces a 3,500 mile coastline and extends through five time zones.

Command responsibilities are fulfilled through three operating departments - Facilities Planning, Facilities Acquisition, and Facilities Management - which are staffed by ten Naval officers and 650 civilian personnel. Although command and staff are centralized in San Bruno, branch offices are maintained in Seattle and San Diego, and field construction representatives are deployed at various locations throughout the geographic area served.[3]

The Facilities Planning Division, a component of the Planning Department, is organized into two branches - Requirements Planning and

Master Planning. The Requirements Planning branch has a staff of about 15 professional and technical personnel which work with planning factors and criteria, engineering evaluation of facilities assets, project review and validation, construction programming, and environmental impact assessment and review. The Master Planning branch has a professional and technical staff of about 25 which conduct and administer the preparation of installation master plans, regional complex plans, and special planning studies; perform facility siting reviews and certifications, and coordinate master plan implementation.[4] Each branch is subdivided into sections, with responsibilities assigned along functional or geographic lines as appropriate.

The magnitude of planning responsibility assigned to WESTNAVFAC may be illustrated with some statistics. The 186 Naval and Marine Corps installations within the geographic purview comprise 5,320 square miles of area and support a combined resident and employed population of 470,000 people (252,000 military personnel, 104,000 civilian employees and 114,000 military dependents, living in military quarters on federal land).[5]

This planning responsibility can thus be compared in scale, roughly, with a governmental entity such as Fresno County, California. In actuality, however, the geographic dispersion of Naval activities within the three Naval Districts served creates a much more complex environment for planning than does a cohesive territory. In addition to supporting some

375 separate Naval and Marine Corps shore activities and fleet commands, and 25 different management offices, WESTNAVFAC interfaces with nine state governments, 85 county governments, three state coastal commissions, ten port authorities, at least five regional governments, and a multitude of school and other special districts, commissions, and other federal agencies.[6]

Another measure of the growth of Navy planning is reflected in the size, role and status of the planning organization at WESTNAVFAC; an evolution paralleled throughout the system. In the early 1950's, the planning functions were accomplished by a section within the Civil Engineering Branch of the Design Division; responsibilities were limited principally to mapping and facility siting. In the late 1950's, planning was established as a separate branch within the Design Division and had a staff of about ten people.[7]

With the inception of the Shore Facilities Planning and Programming System (SFPPS) in 1960, the Planning Division was formed, consisting of two branches - Facilities Planning and Civil Defense. The latter function was oriented toward contingency, or mobilization planning, and disaster preparedness, reflecting the prevailing national concern over the advent of nuclear war. Duties of the Facilities Planning Branch were expanded to accommodate the multiple administrative requirements of the SFPPS, and the staff had grown to about 15.[8]

In 1970, the growing economic austerity in the federal agencies resulted in a consolidation of Naval engineering offices, worldwide. Ten EFD's were consolidated to six, and a single office, to serve the entire western portion of the United States, was established in San Bruno. It was at this point that planning achieved departmental status, absorbing both the Facilities Planning and Real Estate divisions as subordinate functions. The Facilities Planning Division now has a staff of 48 people and a greatly expanded role.[9]

B. EVOLUTION OF THE NAVY PLANNING SYSTEM

There are, today, 763 separate Naval and Marine Corps shore installations in the Continental United States. These "bases", as they are called, contain an aggregate of 4,161,309 acres of land and 82,373 buildings and structures, totalling 536,123,000 square feet in area. These buildings and structures cost the government $5,616,417,000, and have an estimated replacement value of almost $20 billion. The total cost of land and utilities is $10,087,032,000.[10]

Prior to World War II, many of these installations did not exist as military property. The urgent needs of national defense, driven by the mobilization effort during the war years, resulted in a base acquisition, development and expansion program unrivaled in military history. Expedience and productivity were the order of the day.[11]

As a result of this accelerated construction program, Naval bases were developed without regard to long range planning goals and facilities expansion was, understandably, haphazard.[12]

With the return to peacetime in the late 1940's, the Navy found itself with a tremendous inventory of physical assets, much of which had been sporadically conceived, hastily built, and surplus to then-present

needs. Many of these assets, built "for the duration", were vacated and placed in caretaker status, awaiting further developments or policy decisions.[13]

These assets were reactivated during the Korean War in the early 1950's, and were augmented with additional construction, as dictated by prevailing needs.[14]

The several years of peace that followed the end of the Korean War permitted a careful evaluation of military needs and assets. As a logical result of this analysis, it was concluded that:

1. The physical inventory of military property was attaining very large proportions and a workable system of management must be developed;

2. The "image" of defense installations must be upgraded to accommodate the demands of a peacetime military force which was increasingly voluntary and of professional status;

3. The best way to satisfy these demands was to institute a program for comprehensive, long range facilities planning, programming and implementation.[15]

Facilities planning in the Navy got its real start in September 1952 through the Master Shore Station Development Program (MSSDP).[16] Although this program was somewhat comprehensive in scope, addressing the total projected facilities development needs of the various installations, it was hampered by inadequate management. This was due both to a general pre-occupation with the Korean War and subsequent demilitarization, and to a scope and methodology which could not be handled efficiently by the assigned staff.[17]

The MSSDP vested authority for determination of facilities requirements, evaluation of existing assets, and preparation of "master plans" for projected physical development, in the command of each installation. NAVFAC (then known as the Bureau of Yards and Docks) was only indirectly involved in the process, as technical consultant to the installations' public works departments.[18]

In theory, the program appeared reasonable, but in practice the planning tasks delegated to the staff were voluminous and the output of paperwork became a burden to all levels of participation. More importantly, the separate determination of facilities requirements by each command often resulted in excessive estimates of needs, which could not possibly be satisfied with prospective appropriations. By the late

1950's, the MSSDP was recognized to be unrealistic and ineffective; it was subsequently pronounced a failure, and "master planning" disappeared for a few years.[19]

Navy planning became systematized in 1960, when the Secretary of the Navy issued a directive establishing the Naval Shore Facilities Planning and Programming System, called SFPPS.[20] This action was strongly influenced by the policies of (then) Secretary of Defense Robert McNamara, incorporating the principles of the Planning, Programming, Budgeting System (PPBS) developed for the Department of Defense (DOD) by the Rand Corporation.[21] Friedmann notes the success of PPBS in the DOD and cites it as a "clear instance of allocative planning."[22] A representative of the Rand Corporation has stated, "Centrally controlled planning in the DOD since 1961 must be regarded as one of the major planning experiments of all time."[23]

In April 1960, the Chief of Naval Operations implemented the Secretary's directive by developing a format and methodology for the SFPPS and tasking NAVFAC with administrative responsibility.[24] This was a milestone event in Naval facilities planning, which promised to bring needed order to a chaotic situation (much as Secretary Southard had perceived in 1825).[25]

The system was highly rational, proceeding from the broad to the specific. Total projected Navy force structure and various operating plans were reviewed at headquarters level to determine overall mission requirements and logistic support needs on a broad geographic basis. These were then translated into mission and tasks, and workload and staffing levels for individual installations.

The system was intended to eliminate the excessive and often superfluous project requests typical of the earlier, (MSSDP), program, and to limit construction expenditures to only the most essential needs of the installations on a priority basis. Order and austerity were the keynotes of the system, and aesthetic considerations were barely acknowledged.[26]

The thrust of the SFPPS, initially, was confined to:

1. Statistical derivation and quantification of those facilities required by an installation to accomplish its assigned mission, tasks and workload, and to accommodate its assigned personnel and equipment. This was accomplished through use of established planning factors and criteria contained primarily in NAVFAC Manual P-80, "Facilities Planning Factors for Naval Shore Activities".

2. Quantification and evaluation of existing facilities assets;

3. Determination of facilities excesses and deficiencies;

4. Disposition of excess assets, through demolition or disposal; and,

5. Programming of new construction to satisfy the computed facilities deficits.

These tasks were performed by the NAVFAC EFD with assistance from the respective installation, but the total process was executed in 17 separate steps involving a wide variety of inputs. Figure 4 depicts the organization and functional cycle of the SFPPS.

Despite the obvious improvements in statistical quantification of needs and inventory, the SFPPS experienced growing pains. An excellent if highly critical analysis was made in July 1964 in which weaknesses were noted in each step.[27] Among other things, the system placed little emphasis on physical design aspects such as facilities siting and land use, and master planning was non-existent in the system.[28]

In 1961, NAVFAC published its Manual P-340, "Procedures for Planning Naval Shore Facilities", which outlined technical planning methodology in great detail, and called for the preparation of General

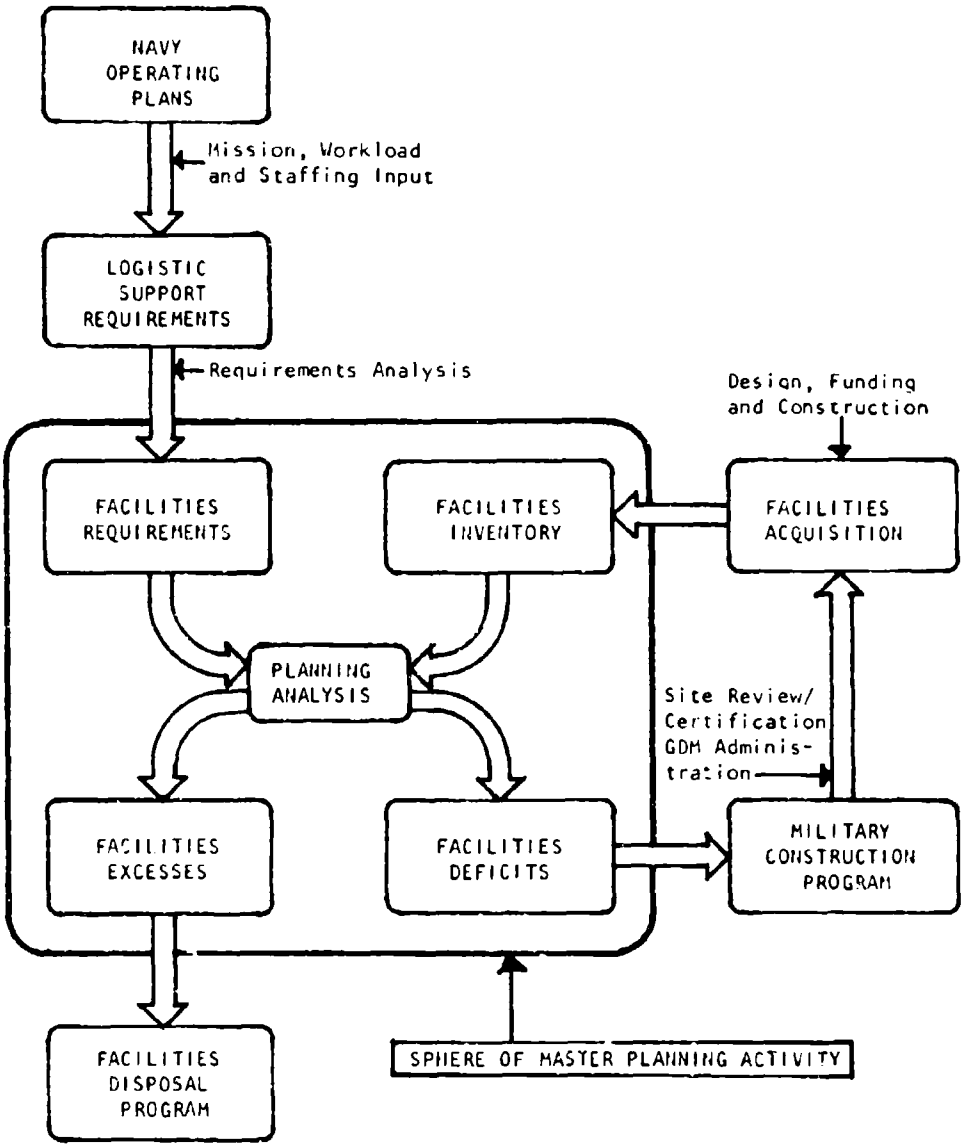

FIGURE 4: NAVAL SHORE FACILITIES PLANNING AND PROGRAMMING SYSTEM

Development Maps for every Naval and Marine Corps installation. These maps, while showing existing and proposed facilities, along with pertinent regional and vicinal factors, were not "master plans". They did not evolve from a comprehensive analysis of physical and environmental considerations within and around the installation and, as a result, were subject to frequent change. The General Development Maps were not accompanied by a text and were thus unable to address qualitative issues, such as planning policies, goals, objectives or concepts for facilities development. Annual updates were specified and were required to maintain currency.[29]

The NAVFAC P-340 manual defined "technical planning" as "a process to determine the land and physical facilities needed to satisfy military operational and functional requirements. It includes the analysis and evaluation of land, water area and air space; site selection; determination of buildings, structures and other improvements best suited to satisfy the facility requirements; design of the physical arrangement of the facilities; and, assurance of the engineering and construction feasibility of the proposed development." While this definition relates to "master planning" in the Navy concept, the term,"technical planning", was defined as an aspect of "civil engineering", reflecting the pervading orientation of the bureau management. This situation lasted for seven years.

To accommodate the recognized need for a dedicated physical and environmental analysis of installation development, NAVFAC published, in 1968, the Navy's first real master planning directive. This instruction describes a process for master planning of Naval shore installations, to assure their present and future capability to accept the required facilities in an efficient and appropriate manner.[30]

The master planning instruction was given strong support by the adoption of the Logistic Support Requirements system in 1967.[31] This system was designed to identify all tasks, functions and workload to be accomplished by an installation over a projected eight year period. The LSR system, as it is known, provided, through a detailed questionnaire format, projected operational workload in terms of mission, tasks and functions; installation organization and staffing requirements; functional inter-relationships, both internal and external; loading plans, equipment allowance lists and workload analysis. The basic document, once prepared by the installation and approved through chain-of-command review, was to be maintained current. It's primary benefits to master planning were to (1) furnish a wealth of current organizational and operational data in usable form and (2) extend the projected time horizon for planning clearly into the "mid-range" period; i.e., three years beyond earlier five-year projections.[32]

Unfortunately, the LSR system fell short of its promise and was abandoned in 1973; there simply was not sufficient manpower available at the installations to effectively compile and maintain the data required. The LSR system suffered from the same malady that had disabled the Master Shore Station Development Program 15 years earlier.[33]

The Navy master planning instruction is now being revised and expanded to provide for planning of regional complexes, such as the Naval Base in San Diego which, with 18 separate installations, is the largest military complex in the United States; and of logistics support systems, such as ordnance, RDT&E, supply, etc., on a Navy-wide basis.[34]

The original instruction has been amended several times over the years in response to changing conditions in the Department of Defense and to reflect the impact of changing policies and attitudes on a nation-wide basis; for example, the growth of environmental concern and the onset of economic austerity in federal spending. The main thrust of each update was to equate master planning productivity with available resources.[35] The consolidation of NAVFAC EFD's in July 1970 resulted in much larger geographic areas to serve, without a commensurate increase in staff. There was a real dilemma in accommodating a growing workload with a limited and stable work force. The original master plan instruction called for "preliminary" and "final" master plans, the latter to be prepared only when required and directed by Headquarters. A subsequent revision, in

1971, specified "Phase I" and "Phase II" master plans; the latter, again, subject to special authorization. The "preliminary" and "Phase I" master plans were essentially proposed land use plans, with detailed siting limited to facilities of high importance or interest. "Final" and "Phase II" plans provided siting configuration for all approved facilities requirements. In retrospect, few "final" or "Phase II" master plans were completed, but the "preliminary" and "Phase I" plans required perhaps three-quarters of the total effort.[36] The instruction also required all targeted master plans to be completed within a five year schedule, and then to be updated on a three year schedule, resources permitting. Resources have not permitted the realization of this goal.[37]

At each successive revision, the Navy planning system has become more complex and comprehensive; new and more detailed planning factors and criteria have been incorporated, new and longer forms are used for analysis and reporting, and the scope of planning purview has been expanded both internally (intra-station) and externally (to include the installation environs).

In its earliest years, the Naval planning system reflected a somewhat autonomous establishment in which decisions could be made and actions accomplished in a relative vacuum. Although a directive for "regional planning" was issued in 1955, most planning was performed

on an individual installation basis, with little regard to the interface between either the installation and its military neighbors or relatives, or the installation and the surrounding civilian community. This approach exemplified "insular" planning, in which the military establishment was presumed to function in a totally isolated environment - a concept that could not meet the demands of today's urban situation.[38]

Current revisions to the Navy's master plan instruction emphasize a higher concern for environmental issues and a higher level of interface between the military and civilian communities. Considering the typical urban waterfront location of most Naval activities, it would appear that the system is maturing in a responsive, articulate manner. Figure 5 diagrams the master plan process.

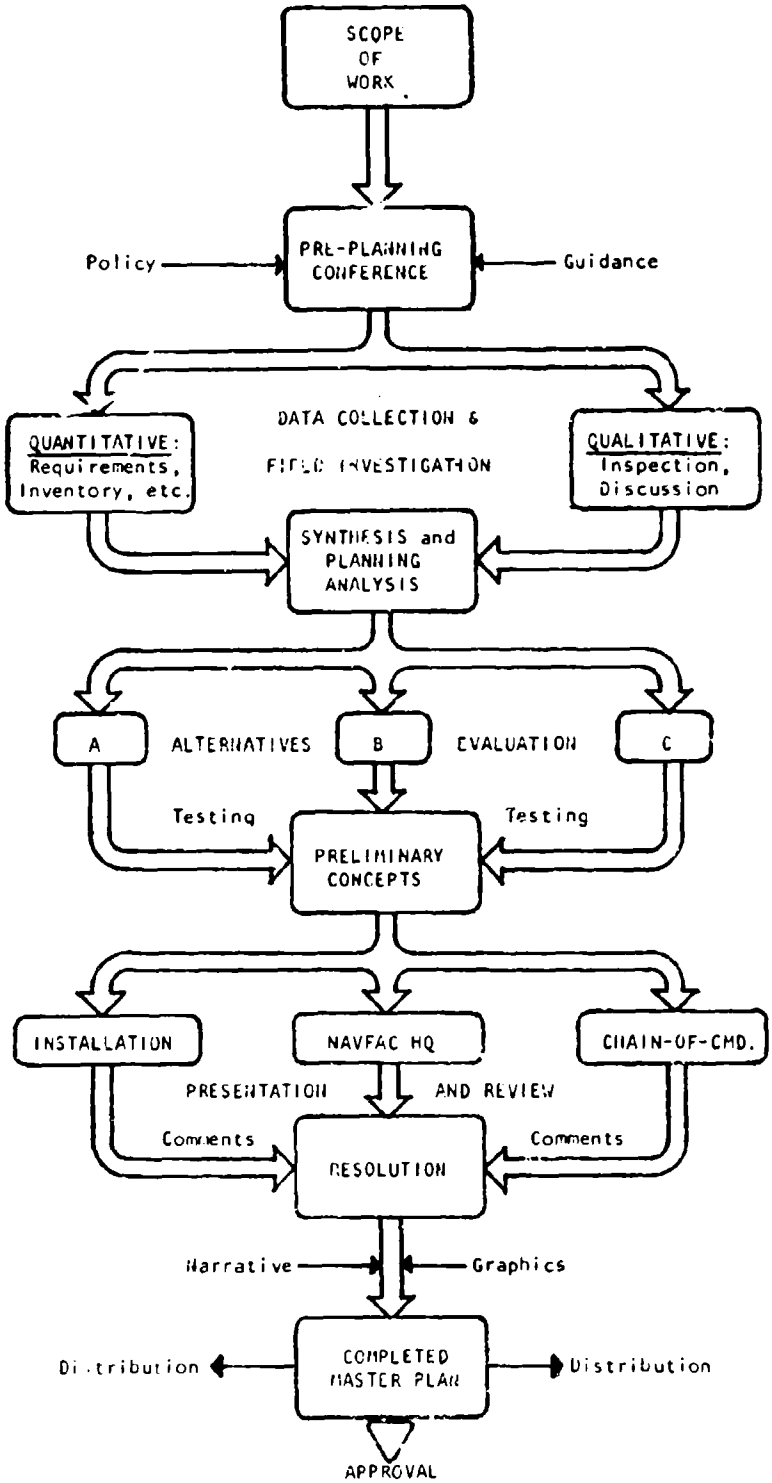

FIGURE 5: THE NAVY MASTER PLANNING PROCESS

C. RECENT IMPACTS ON THE SYSTEM

To afford a clearer perspective of the Navy planning universe, the following paragraphs summarize some of the recent impacts that have shaped the current approach. These impacts can be viewed as emanating from two directions: internal, from within the defense establishment, and external, from other governmental agencies or the civilian community.

1. Significant internal impacts include:

   a. The Shore Establishment Realignment program, announced in April 1973, without prior disclosure, resulting in base closures and realignments on a Navy-wide basis;

   b. The cessation of United States involvement in Vietnam, returning thousands of military personnel to stateside duty and the Navy to peacetime status. This action resulted in a smaller Navy worldwide, but a heavier concentration of operations at domestic port locations;

   c. The growth of national economic austerity, requiring severe cutbacks in Navy funding and calling for a diligent examination of development priorities;

d. The adoption, by the Department of Defense, of heavy and wide ranging environmental policies, requiring a re-shuffling of fiscal priorities in the Navy, and of technical planning responsibilities throughout the NAVFAC organization. The Secretary of the Navy issued a directive in 1972 establishing procedures for compliance with the National Environmental Policy Act (NEPA) of 1969, and requiring preparation of an Environmental Impact Assessment for all construction projects submitted for Congressional authorization and appropriation.[39] An Environmental Impact Statement is required wherever a significant impact is contemplated;

e. The inception of computerized planning data, covering installation facilities requirements, physical plant inventory, facilities excesses and deficiencies, and Military Construction Program Objectives. This step provides more current data, faster data retrieval, and more flexibility in data format through use of various printout configurations;

f. New and more restrictive facility siting criteria, limiting construction in areas subject to high noise levels from aircraft operations, seismic activity, and explosive safety hazards.

2. Significant external impacts include:

a. The issuance of Executive Order 11508 in 1972, in which federal properties (primarily military) were to be scrutinized to determine what may be excess to departmental needs. This policy, implemented through the General Services Administration, which is conducting an on-going survey of federal land, has resulted in the declaration as excess, of considerable military property which was alledgedly being put to less than its highest and best use. The Chief of Naval Operations has required all Naval installations to prepare and maintain real property utilization maps and reports showing how their land is being used, or proposed for use;[40]

b. The adoption of restrictive environmental policies by other governmental agencies - federal, state and local - with which the Navy must comply, or attempt to comply, depending on the level of jurisdiction applicable;

c. The continued growth in size and density of coastal urban areas, which impacts ever more heavily on the Navy as a prime user of water and shoreline resources, requiring a continual survey of actual and potential encroachments;

d. The issuance of Office of Management and Budget Circular A-95 in 1969, which directed all federal agencies to coordinate their planning and development programs with those of local agencies. This directive set up "regional clearinghouses", usually the area council of governments, to review and coordinate federal projects having impacts on th local environment. This procedure has had a pronounced effect on the Navy in urban coastal areas by giving strong public visibility to military development plans.

3. Within the purview of Navy planning, these issues have required major adjustments to the modus operandi:

a. An expeditious review of land use development and management policies and of facilities planning programs for which the impetus was not anticipated;

b. A deferral of many desirable, but less essential, construction projects requiring adjustments to implementation plans and schedules;

c. A realignment of planning resources, both people and money, to meet the challenges impelled by the growth of environmental concern in both the public (governmental) and private (community)

sectors. The net effect has been the deferral of targeted, on-going planning projects in favor of non-targeted, "brush fire" planning (or quasi planning) efforts which require immediate response.

4. Some of the more formidable and imaginative programs that have originated within the Navy planning community are:

   a. The Base Attractiveness program, instituted by the Chief of Naval Operations to improve the external appearance of Naval installations and to encompass broader Defense Department objectives regarding the improvement of the total environment and quality of life at military bases;[41]

   b. The Air Installations Compatible Use Zones program, originated by the Navy to protect essential Naval and Marine Corps air stations against urban encroachment, and to assure compatible land use for both the military and civilian communities;[42]

   c. Regional planning for Naval complexes, conducted along functional lines, to address multiple activity requirements and problem areas on a macro-planning basis;[43]

d. Systems planning for Naval logistics support functions, conducted on a coastwide or Navy-wide basis, as applicable, to determine optimal shore support capability for response to the needs of the operating forces afloat;

e. Advocacy planning, in appropriate circumstances, to identify the various actors in a complex planning issue and to understand and appreciate their legitimate, but often divergent, viewpoints;[44]

f. Process planning, an alternative to the end-state document approach, which lends credibility to facilities planning as a continual and dynamic, rather than a static, activity.[45]

The Navy planning universe has expanded considerably in the last few years, and it is not likely to shrink. Meeting the multitude of demands in a competent and timely manner has not been an easy task and has not been uniformly successful. In attempting to do so, however, the posture of Navy planning has been changed in an almost revolutionary manner. The practice of technical master planning has absorbed the additional roles of program management and public relations marketing. The Navy planner is now deeply involved in public hearings, public presentations, inter-agency rap sessions, and other quasi political activities that were

unimaginable ten years ago. Insular planning appears to be gone forever, and the Navy now plans as part of the total community.

The following sections of this paper examine the past performance and current direction of the Navy's master planning program and provide some guidelines for future management policy.

D. COMPARATIVE PLANNING CONCEPTS

The case for long range, comprehensive planning, originated in the late 1920's and advocated by T. J. Kent and others into the early 1960's, has since fallen into a state of disrepute. When an institution falls, it usually falls hard, and the classic planning model has suffered scathing criticism in recent years. It has been pronounced not only misdirected and ineffective, but the source of critical damage to the general public and the planning profession alike.

The classic planning model, as the Kentian approach has been termed, conceives a predictable and desirable end-state to which all policies and programs should be oriented. The principal tenets of this concept are that the master plan, or general plan, should be:

1. "Comprehensive", in that it includes all physical aspects of the environment, considering economic, social, cultural and political factors which determine physical needs and their means of satisfaction;

2. "Long-range", in that it looks as far as possible into the future and, depending on personal interpretation, either seeks to accommodate the predicted community needs at that point in time, or to shape a future environment which will be appropriate to those preconceived needs;

3. "General", in that it is a "guide", rather than a "program", for physical development. In this regard, it accommodates incremental change with minimal revision by avoiding the specific issues of cost, procedure and schedules, and;

4. "Physically oriented", in that it focuses on considerations of private land use, circulation and public facilities and, more recently, housing, recreation, open space, public transit, etc.[46]

This traditional planning approach has guided the efforts of the great majority of local planning offices around the county and, as will be seen, the Navy's planning establishment as well. It is an outgrowth of the technical disciplines from which it originated; i.e., architecture, engineering, landscape architecture, and is thus characterized by a well ordered and somewhat static orientation. The physical bias of urban planning was focused by the Housing Act of 1954 (Article 701), sustained by the curricula of all major planning schools and endorsed by the American Institute of Planners until 1967.[47]

In general, the opponents of the concept argue that it is, at best, inappropriate to the real needs of contemporary urban society and designed for failure. At worst, it is an elitist exercise in futility which is supported by dominant and reactionary political interests.

Specifically, they maintain that the future is impossible to predict with any degree of reliability; that "comprehensiveness", while needed, is mis-stated in the Kentian doctrine; that a focus on physical development is inadequate to cope with diverse human needs in a pluralistic, democratic society; and, that a scope "general" enough to avoid frequent amendment renders the plan useless in a real world situation.

The critics claim that the scale of urban problems demands a sense of urgency in their approach, thus a focus on immediate or short-range objectives; the scope of urban problems demands at least equal consideration of social, economic, cultural, political and environmental factors, thus a truly interdisciplinary approach; and, the structure of urban society demands a high level of citizen involvement, thus a multiple advocacy approach. Furthermore, they attack the "comprehensive - general" dichotomy on the basis that the terms are mutually exclusive. The most frequent criticism is with the matter of implementation; that plans don't get implemented because they are not politically feasible. The realities of the political context in which the master plan is placed demand that it be both specific, to be of any real use for decision-making in the legislative body, and flexible, so as to not bind the hands of elected public officials responding to their constituents.

The thrust of the attack on the classic planning model has come, understandably, from the planning profession itself. It is not necessary here to review the specific charges and their rationale, but the more common themes can be summarized. They are characterized by an intriguing and colorful display of terminology.

The classic planning model has been termed, "allocative" planning by Friedmann, in which limited public goods are distributed in a zero sum game;[48] "rational" planning by Braybrooke and Lindblom, which purports a single best answer to each of myriad and complex problems, while real world decision making plods along as "disjointed incrementalism";[49] "end-state" planning by Davidoff, involving utopian approaches developed by "value-neutral idealists";[50] "detached" planning by Hansen, who berates the typical separation of planning from actual decision-making;[51] "technocratic" planning by Toffler, which is described as "econcentric, short-sighted and undemocratic."[52] Meyerson, Banfield and Altshuler, among others, have also commented eloquently on the dire state of the art, as summarized by Bolan in his excellent article of 1967.[53]

The literature, however, is not solely a counsel of despair. In response to this "crisis", new approaches have been set forth by the more sensitive critics. Branch speaks of "continuous planning" as a

"process" in lieu of a "product";[54] Davidoff calls for "advocacy planning" as a means to democratic decision making in a pluralistic society;[55] Fagin advocates "policy planning" as a way to get political support for plan affectuation;[56] Friedmann defines "innovative planning" as a radical, action-oriented approach to contemporary problem solving;[57] and, Toffler creates a "strategy of social futurism", which expands the scope and horizon of traditional planning and examines a host of possible future environments.[58] More conservatively, Altshuler speaks of the need for "mid-range" planning, with the promise of higher professional credibility,[59] and Bolan calls for a reconsideration of the "rational planning model", based on recent advances in the field of policy science.[60]

The list could go on, but that isn't necessary. While the terminology is imaginative and varied, the new concepts have much in common. They all emphasize the need for responsiveness to numerous and diverse requirements and for flexibility in accommodating ever-changing conditions and attitudes. This implies a highly political and generalized role for the planner, aimed at coordination, motivation and problem solving, rather than a specialized role aimed at prediction, prescription and allocation.

The Navy's master plan program is aligned with the classic planning model, having all the requisite qualities defined by Kent. There are two reasons for this: (1) the Navy's program was formulated in the mid-1960's, after the Kentian approach had peaked but before it had plunged; and, (2) the Navy's program is highly adaptive to this concept, having considerable opportunity to make it work. For example:

1. The Navy, as an arm of the Department of Defense, is an autocratic, "closed" society, which affords a high level of control over policy and goal formulation with minimal social or political intervention;

2. Funding for construction is relatively assured and proceeds from a single source of allocation; thus, economies are viewed in a relative rather than an absolute sense and implementation is a systematic, if drawn out, process;

3. Defense planning, programming and budgeting are highly systematized so that projections can be made with a greater degree of confidence than in the civilian sector; and,

4. Military ideology stresses order, efficiency and uniformity, all of which are compatible with the classic planning model and which are supported by the technical and physical orientation of the Navy's master planning approach.

The fundamental thrust in military facilities planning is the accommodation of national defense requirements and all other issues are subordinate. The achievement of an efficiently organized shore establishment is considered of primary importance in this pursuit; thus, the case for long range, comprehensive, physically-oriented planning is stated.

Despite this apparent congruity, however, the Navy's master planning program has, in practice, experienced many of the pitfalls ascribed to the classic planning model. It has been impacted by changing social and economic conditions and by environmental concerns, with the result that long range forecasting is far from reliable and plan implementation is protracted and erratic. These issues are discussed in the following sections to determine whether the criticisms leveled at planning in the civilian sector might apply to the Navy as well.

E. INFORMATION SOURCES

The data used in Part II, "Analysis and Critique", consist of (1) statistical information on master planning costs and accomplishments obtained from NAVFAC headquarters, and (2) professional opinions obtained from persons directly involved with the Navy master planning program, civilian staff planners employed by the Navy, civilian planners who have worked under planning service contracts to the Navy, and military or civilian personnel at installations having a history of experience with Navy master plans.

Supporting information was obtained from the NAVFAC Command Management Plan for FY 1976,[61] a "Delphi" survey on master planning conducted by NAVFAC headquarters in 1972,[62] various Navy planning directives, a "Market Survey" of NAVFAC services and customer support conducted in 1975,[63] the NAVFAC 10-Year Command History (Shore Facilities Planning),[64] and published articles and official and personal correspondence as appropriate.

Professional opinions were solicited by means of questionnaires prepared exclusively for and distributed to selected representatives of each survey group. Responses were tabulated and analyzed, and consensus opinions have been used as the basis for the following evaluation.

The questionnaires were structured to obtain both fixed and open-end responses, depending on the information desired. Multiple-choice, fixed-response questions were predominant to establish consistency in evaluation; open-end questions were used wherever the possibility existed for unanticipated responses. All questions were neutrally coded to minimize response set and were sequenced in "hourglass" mode, moving from general to specific and back to general. This format provides maximum reliability for evaluative purposes.[65]

Where quantified responses were desired, participants were asked to rate the item numerically, on a "1-to-5" basis, with "1" representing the most positive response, "5" the most negative response, and "3" a neutral position.

The survey is referred to as the "Master Planning Survey" in the following sections. Completed questionnaires, indicating the consensus of each survey group, are furnished as Appendix B.

The Architect-Engineer survey questionnaire was sent to six firms which have accomplished master plans under contract to the Navy. Under this arrangement, the contractor performs all planning tasks required by the basic instructions, in accordance with a scope of work prepared by Navy planners and under the direction of a Navy planner-

in-charge. The contract is normally terminated upon acceptance of the completed master plan, and implementation is administered "in-house" by Navy planners.

Of the six firms solicited, only three responses were obtained, but these were suitable for analysis. Responses were reasonably credible and complete. Of 108 possible items, 103 were answered and, of these, 18 indicated a misunderstanding of the question or type of response desired. The questionnaire was sent by letter to the principal of each firm, and all replies were completed by that person.

The master plans prepared by these three firms were completed between June 1974 and October 1975, but were prepared according to the earlier (1971) master plan instruction. Only one of the three master plans has been approved by the Chief of Naval Operations.

The Installation survey questionnaire was sent to 12 Naval installations located in the Eleventh, Twelfth and Thirteenth Naval Districts.[66] Nine responses were received from eight installations, (one respondent submitted two replies), which formed the basis for analysis.

Responses were generally very credible and complete. Of 279 possible items, 257 were answered and, of these, only ten indicated a misunderstanding of the question or type of response desired. The

questionnaires were sent by letter to the commanding officer or equivalent official at each installation, soliciting a command position on all items. The replies, however, appear to have been prepared and returned by staff personnel, presumably in the civil engineering or facilities planning departments.

Responses were received from three Naval air stations, two Naval weapons stations, two ordance RDT&E activities, and one regional medical center, thus furnishing a good cross-section of functional categories. These installations have master plans prepared between April 1966 and March 1974, all of which have been approved by the Chief of Naval Operations.

Since approval of the master plan, three of the nine installations stated a significant change in mission or tasks; two, an increase in workload; two, a decrease in workload; and, two, a decrease in base loading. Only one installation reported no significant changes in these items. Five of the installations reported no significant change in the surrounding environment. Those noting changes referred mainly to physical growth and development, increased environmental concern within the community, and additional layers of government - all of which presumably impacted on the installation in some manner.

The NAVFAC questionnaire was sent to each of the NAVFAC Engineering Field Divisions (EFD's) and to Headquarters, which have, collectively, prepared 108 master plans and regional complex plans. Of this total, 82 plans were prepared "in-house", the balance by planning service contract.

Responses were received from headquarters and all but one EFD, and the results were very credible and complete. Of 576 possible items, 552 were answered and of these, 38 indicated a misunderstanding of the question or the type of response desired. The questionnaires were sent to, and completed by, the master planning branch manager of each office.

NAVFAC headquarters and each EFD operate under somewhat different conditions regarding management policies, staffing, workload and nature of total planning responsibilities. These were reflected in the various responses. For example, NAVFAC headquarters does not have an assigned geographic area, and does not administer general development maps or site review and approval within the master planning branch. They do all master planning "in-house", assisting the various EFD's according to priorities and manpower availability. Headquarters has a considerable responsibility to the Department of Defense, Chief of Naval Operations, Secretary of Defense, Secretary of the

Navy, Materiel Command Systems Commands, and other bureau commands and offices. Furthermore, the headquarters response to questions regarding the value of the master plan instruction revealed a strong positive bias; understandable, considering that they wrote it. Atlantic and Pacific Divisions administer substantial work in foreign countries which have unique economic, environmental and socio-political implications.

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66 The installations surveyed were: Naval Air Station Miramar, San Diego, California; Naval Torpedo Station, Keyport, Washington; Naval Regional Medical Center, Oakland, California; Naval Postgraduate School, Monterey, California; Naval Air Station, Fallon, Nevada; Naval Air Station North Island, San Diego, California; Naval Shipyard Mare Island, Vallejo, California; Naval Weapons Station, Concord, California; Naval Weapons Station, Seal Beach, California; Pacific Missile Test Center, Point Mugu, California; Naval Air Station, Alameda, California; and, Naval Support Activity Treasure Island, San Francisco, California

PART II. ANALYSIS AND CRITIQUE

A. Program Objectives

B. Program Directives

C. Program Output

D. Program Cost

E. Program Effectiveness

F. Program Management

PART II: ANALYSIS AND CRITIQUE

A. PROGRAM OBJECTIVES

Objective and Criteria: Define the objectives, goals and policies of the Navy's master planning program and estimate the extent to which they have been met or complied with.

The evaluation is based on review of the Naval Facilities Engineering Command (NAVFAC), Command Management Plan, applicable Navy planning directives, and responses to the master planning survey conducted for this paper.

Background: "The Command Management Plan is the basic planning document of the Naval Facilities Engineering Command. It reflects the Command's philosophy of management by programs and management by objectives. This management process compliments the Planning, Programming, Budgeting System of the Department of Navy and the Department of Defense."[1] So says the Commander.

The Command Management Plan describes the various programs which, collectively, make up the total NAVFAC responsibility, state the basic Command objectives, define the intermediate goals for each component program, and explain the Command policies for accomplishment of each program.

Intermediate goals are focused on considerations of product, service, support, improvement, and performance. Product and service goals concern "externalities", or support of customers while the other three relate to internal functions of the organization. Product, improvement and performance goals are measurable; the other two are not. Specific resource allocations are made toward product, service and support goals and, occasionally, to improvement goals. Performance goals are, in effect, measures of accomplishment toward the other four goals and are not separately funded.

Master planning is not really a separate program, but an element of a larger program - Planning and Real Estate. It is, therefore, a sub-program which possesses the characteristics of a full program in that specific goals are stated for its execution.

The basic Command objective applicable to master planning is, "to ensure that the shore facilities and fixed ocean facilities necessary to support the Navy are available at the best balance between requirement and economy."[2] The language is straightforward, but doesn't

lend itself to penetrating analysis. The only real implication for master planning is the suggestion of an austere approach.

The Command product goals for master planning consist of annual targets for preparation and updating; service and support goals address master planning only indirectly; improvement goals call for development of a concept for regional and systems master planning teams; and, performance goals are to "limit effort devoted to 'untargeted studies' to 15% of planning effort", and to "reduce the backlog of master plans greater than five years old to 20% of total."[3] Accomplishment of product and performance goals is discussed in Section C., "Program Output", and improvement goals are discussed in Section F., "Program Management".

Command policies applicable to master planning are that:

1. "Shore installation and facilities planning will be performed 'in-house' to the maximum extent practicable";

2. "Planning for the provision of shore installations and facilities will be accomplished in time to provide a basis for orderly programming and budgeting";

3. "Planning studies will be sensitive to environmental and community-oriented constraints, with consideration given to the social and economic impacts of planned actions on surrounding civilian communities. Noise, air and water polluting planned actions will be minimized and due consideration given to all natural environmental factors, operational safety and energy conservation."[4]

These objectives, goals and policies speak to the broad issues of shore support for the operating forces, and to external output and internal management of the various programs. While they do stress timeliness of accomplishment, they do not address the succinct purpose of master planning, nor do they refer to quality of the program output in terms of benefits to the users. For these items, we must turn elsewhere.

The Navy's Shore Installations Planning and Programming System (SFPPS) was initiated in 1960. The basic philosophy of the system was stated in positive terms:

> "The primary reason for a shore facility planning system is to ensure that the effort and funds expended for shore facilities are in proper balance with the support requirements generated by the Operating Forces of the Navy. Accordingly, plans for shore facilities must be based upon an austere approach to satisfying firm operational requirements; they should not become a means for the over-development of shore facilities to satisfy the whims or desires of individuals. Planning in each of its successive steps must adhere to reality and not encompass utopian goals that are financially unattainable. Such an approach has an obvious advantage: considerable savings should accrue from the reduction in expenditures of manhours and paperwork which have in the past been required for plans that had very little relation to true requirements and had no chance of ever being funded...Planning must be a continuous process and under frequent review if it is to produce the maximum benefit with the minimum of effort."[5]

As noted in Section 1.B., the directive did not make reference to master planning, and such did not exist at that time as an official planning function.

A revision of the original planning directive, which appeared in 1962, added policies concerning personnel support facilities and criteria for their design. The thrust of these items was the provision of an improved physical environment for living and working which should be efficient in function and economical in cost. The latest edition of this directive, dated 1972, states: "It is essential that the facilities necessary for the shore (field) activities to accomplish assigned missions be acquired in a timely manner."[6]

The first Navy directive addressed specifically to master planning appeared in June 1968. It stated:

> "In order for NAVFAC to produce master plans capable of providing factual data and sound facilities planning recommendations, it is essential that the plans and studies be based on...(valid facilities requirements). Further, it is necessary that this planning effort be monitored at critical stages to ensure that it conforms with established guidance, provides a basis for selection of alternative solutions, avoids theoretical solutions impractical to implement, and reflects competent and professional talent."

Master planning was defined as:

> "The scientific art of comprehensive planning performed for an activity or a complex of activities to assure the timely and orderly physical development of facilities required to support present and future military operations. This process blends considerations of the total environment including physical characteristics, operational necessities, human interests, and areas of mutual concern beyond station boundaries."

The master plan, upon approval, was defined as:

> "The official planning document for the Naval activity or complex of activities covered by the plan. It represents in graphic, narrative and tabular form the present composition of the activity and proposes the timely, efficient and orderly physical development required to perform its assigned mission and to meet its planned operational workload...The Master Plan also provides information useful in planning the operational expansion of the activity beyond its present mission, up to its maximum capability."[7]

Again, many good words, but no definite statement of purpose.

Subsequent revisions of the master planning directive, made in March 1971, and May 1974, did nothing to clarify the situation except to reflect the increasing importance to planning of community and inter-governmental relations. New requirements were added and procedures altered, but the document remained basically a recipe telling "what it is" and "how to do it".

The most recent evolution of the directive, dated December 1975, is highly descriptive in terms of definitions and methodology; also, it adds further requirements while stressing the need for flexibility in the approach to individual situations. It defines planning as,

> "The means of providing for the efficient and orderly development of the real estate and facilities resources of naval installations and shore activities." Continuing, "The planning process is a multi-disciplinary effort and gives full consideration to the total environment, including physical characteristics, operational requirements and human concerns. The process is also sensitive

> and responsive to the goals and concerns of government on the local, state and federal levels. Federal government policies in areas such as the environment, energy and regional planning are implemented through the master plan program."[8]

Perhaps the closest to a legitimate statement of purpose for master planning is contained in a relatively early Navy directive, issued in February 1968. Master planning, under the Shore Facilities Planning and Programming System, was in its infancy and this directive actually predated the NAVFAC master planning instruction. It stated:

> "(Master plans) will become the media for maintaining continuity in future planning and development, thus obviating problems associated with changes of Command and individual preferences. Approved Master Plans will be utilized for siting all future facilities to ensure maximum economy of construction and operating efficiency and for evaluating the capability of the activities to meet their assigned missions and any contemplated changes thereto."[9]

Discussion: The gist of the above statements appears to be that the basic purpose of the Shore Facilities Planning and Programming System is to support the timely acquisition of facilities needed by shore installations to accomplish their assigned missions. It follows, then, that the basic purpose of the master planning program is to achieve functionally efficient and well ordered physical plans which are configured appropriately to the installation mission and workload and are economical to acquire and maintain. Secondary concerns are then: (1) the capability for orderly

physical expansion to accommodate possible but unforeseen future requirements; (2) compatibility with civilian regional and community development policies and programs to avoid problems of encroachment and a poor public image; (3) support for, or adherence to, relevant federal policies and programs addressing the physical environment; (4) addition of credibility to the Defense Department's Planning, Programming, Budgeting System as it affects Naval shore facilities acquisition and management; and, (5) enhancement of the installation's physical environment, to increase internal morale and external acceptance.

While these secondary concerns appear to reflect the intent of the documents reviewed, they are not necessarily in order, nor are they all-inclusive. Also, it appears that they are not wholly complementary, and that trade-offs might be needed in the effort for their attainment.

The master planning survey solicited opinions on program goal attainment through questionnaires which were submitted to three groups as discussed in Part I.E., "Information Sources". These groups are referred to as "Staff", "Consultants", and "Installations" in the following analyses. Responses were aggregated to form a consensus for each group, and are summarized in the following paragraphs.

1. There was general agreement that the master plan program has been "reasonably" successful in meeting the stated goals and objectives, recognizing that these are normally given as "requirements" and "definitions" in the official directives.

2. Areas of highest achievement were considered to be:

   a. Projection of a good physical environment for the installation which would enhance the public image and bolster morale of assigned personnel;

   b. Provision for attainment of order and efficiency in facilities development and utilization;

   c. Suitability of planned development to installation mission and workload accomplishment;

   d. Provision of capability for expansion and/or accommodation of future requirements.

3. Areas of marginal achievement were considered to be:

   a. Response to social and economic concerns of the civilian community regarding impacts of planned operations and development;

   b. Sensitivity to elements of the natural environment regarding impacts of planned operations and development;

   c. Inter-governmental coordination regarding planned operations and development, such as sharing of policies and planning concepts with other agencies or the civilian community.

Reasons given for marginal achievement in the areas noted were; (1) a general lack of concern among Navy planners and management officials, as all these factors are basically "external" to the installation and its headquarters, and (2) a general reluctance on the part of Navy management officials to voluntarily "get involved" in "external" matters, or to commit their intentions to "outsiders" without a mandate.

4. Areas of lowest achievement were considered to be:

   a. Timeliness of master plan input to the Shore Facilities Planning and Programming System; i.e., response to the ongoing facilities programming and budgeting cycle;

   b. Documentation to support the acquisition of desired facilities;

   c. Capacity for timely and systematic master plan implementation.

Reasons given for lowest achievement in the areas noted were: (1) the overly extended time period consumed in the preparation of master plans; (2) the tendency of Navy planners to accept given facility requirements as sacrosanct, requiring no further justification; (3) insufficient attention given to

project phasing and priorities for implementation; (4) loss of planning continuity through rotation of Navy management personnel; (5) unforeseen changes in installation mission, workload and organizational structure, and in policies and priorities at the departmental or headquarters levels; and, (6) lack of commitment to the value of the master plan at all levels of concern.

The installations also cited a preoccupation of Navy planners with long range, idealized planning concepts as a problem source. In essence, advocacy for unsupported projects, at the expense of established and immediate requirements, casts a shadow on the credibility of the entire plan.

5. There was general agreement among the groups surveyed that the program has best met the stated goals when the master plan has been viewed as a general guide to development, rather than a detailed mandate. This approach appears to conflict with the desires of the installations, however, which stress project

definition and phasing. All groups agreed on the need for more sensitive consideration of environmental factors, closer inter-governmental coordination in planning and development, and a higher regard for socio-economic impacts of the Navy on the surrounding civilian community. The record to date, however, was conceded to be mediocre in all of these areas. Suggestions for improvement focused on the need for more frequent and open interaction on both formal and informal bases, and the involvement of both management and staff personnel, according to the level or status of the issues concerned.

6. Another factor that emerged through the survey is that master planning is a multi-purpose function, having a substantially different purpose for each of four distinct user groups: (a) Installations, for day-to-day decision making on physical plant management and interface with the civilian community on matters of mutual concern; (b) NAVFAC Engineering Field Divisions, for project siting review and certification; (c) Installation headquarters, for facilities programming and budgeting; and, (d) NAVFAC Headquarters, for

interface with Navy Department, Defense Department and Congressional representatives on matters of shore installation development.

7. There was consensus that the master plan program is of relative value, in descending order, to the installations, NAVFAC Headquarters and Engineering Field Divisions, installation headquarters, and other Washington level agencies and departments.

8. The master planning program was judged to accommodate the full spectrum of installation operational and environmental characteristics "quite well" ("1.5" average on a "1" to "5" basis); changes in Congressional and departmental level policy "moderately well" ("1.7" average); and, changes in installation mission, workload or organization only "marginally well" ("2.6" average). Suggestions for improvement included keeping the master plan "flexible", soliciting better planning guidance from headquarters and departmental levels, and achieving better "in-house" (NAVFAC) coordination regarding master plan purpose and use.

Conclusions: The overall sentiment of the master plan survey is that the Navy's master plan program has neither fully succeeded nor utterly failed in goal attainment, but that its level of achievement lies somewhere within the mid-spectrum. This is completely understandable and could have been predicted on the basis of evaluation used, which took a consensus of 18 separate responses. Substantial deviations from the norm were not uncommon on an individual basis, however, and these have been considered for their motive and value.

Navy staff are concerned mainly with master plan process and productivity, and lean more toward quality and quantity where a choice must be made. Consultants are oriented toward the specific master plan program and product; i.e., the scope of work, which sets the ground rules for their performance, and the end-item document, which is what they're being paid to produce. Installations, on the other hand, are strongly implementation and project oriented, having little quibble with program goals, objectives and policies, process or product; so long as the master plan is rationally conceived, maintained current, and capable of stimulating appropriations.

The basic planning objectives, goals and policies of the Navy Department and NAVFAC are very general as stated, and do not provide a good basis for program evaluation, in either qualitative or quantitative

terms. Furthermore, a clear statement of purpose for master planning of Naval shore installations is not explicitly stated in any of the official directives. I share the conclusion that, "The most clear-cut evidence of the primitive state of federal self-evaluation lies in the widespread failure of agencies even to spell out program objectives...there is no standard against which to measure whether the direction of a program or its rate of progress is satisfactory."[10] Another source adds, "Failure to achieve stated program objectives may not always reflect unfavorably on the usefulness of the program. But such failure imposes substantial requirements for information about the conduct of the program, and raises questions about the assumptions made in planning for it."[11]

1. On the basis of master plan survey responses, the following are concluded with regard to stated goals, objectives and policies as they apply to master planning, and to "definitions" and "requirements" contained in the master planning instructions:

    a. The master planning program has, in practice, advanced some "idealized" planning concepts which are not supportable on the basis of known or firmly projected facilities requirements. This is in possible conflict with the basic NAVFAC Command objective, "to ensure that the shore facilities and fixed ocean facilities necessary to

support the Navy a.e available at the best balance between requirement and economy." This situation underscores a dilemma in that, while a mid-range (5-8 year) planning approach is specified, the master plan program seems to be an appropriate tool for long-range forecasting in search of an improved physical plant configuration for shore installations. This is to say, mid-range planning based on firm requirements inhibits the possibility of innovation. While inclusion of "pie-in-the-sky" projects has not been made to the exclusion of established facility requirements, their presence may have placed the credibility of the entire plan in question. The requirement for investigation of potentialities does appear in the NAVFAC master plan directive; perhaps it should also appear in the basic Command objectives. A DELPHI survey conducted by NAVFAC in 1972 raised the question of planning beyond the mid-range period. The response (22 positive; 6 negative) was strongly in favor of long-range planning.[12] A Navy planning consultant has said, "It is absolute folly to base military installation planning entirely upon current missions."[13]

b. The Command policy stating, "Planning for the provision of shore installations and facilities will be accomplished in time to provide a basis for orderly programming and budgeting", has not been complied with to the extent originally anticipated. This issue is discussed in Section C., "Program Output".

c. The Command policy stating, "Shore installations and facilities planning will be performed 'in-house' to the maximum extent practicable", has generally been complied with, although greater reliance on contract preparation would tend to increase master plan output. This issue is also discussed under "Program Output".

d. The Command policy stating, "Planning studies will be sensitive to environmental and community-oriented constraints, with consideration given to the social and economic impacts of planned actions on surrounding civilian communities", has been complied with in letter, if not in spirit. While the degree of desired compliance is not clear, there was general agreement among the groups interviewed that what has been done is less than ultimately desirable. It has more likely been the mandatory minimum.

e. The master plan program has been generally successful in providing a suitable physical environment for Naval installations to accomplish their assigned missions and workload, and in supporting the environmental policies and programs of other federal agencies.

f. The program has been somewhat less successful in providing for accommodation of unanticipated changes to installation mission and workload, and in lending support for acquisition of high priority facilities projects. These failures can be rationalized on the ground that: (1) there is no feasible way to provide for all possible alternative futures in the master plan process--this can only be accomplished through plan revision at the time in which changes occur; and (2) there is no bonus given for possession of a master plan in terms of project acquisition--the plan can only hope to establish meaningful priorities for incremental development. These are, of course, good arguments against the case for "long-range" master plans which speak in generalities, suggesting consideration of shorter-range plans with more specific emphasis on project acquisition.

g. The survey consensus that no substantive changes to the master planning goals and objectives are necessary, is surprising and disappointing. I believe that the Navy's master plan directive should include a conspicuous statement on the purpose of the program in addition to its definition and procedures for accomplishment. The purpose should be defined, both in terms of general benefits to the Navy and the Department of Defense, and of specific benefits to the installation and its environment. Such a statement would be of fundamental interest, both to all prospective commands for which a master planning effort is targeted, and to headquarters level offices who must often pay for the services. Furthermore, it would establish a common point of reference for all "in-house" discussions of "process" and "product", addressing the multi-purpose nature of the master plan. Personal experience, augmented by discussions with other Navy planners, confirms that a ten-year dialogue on the purpose(s) of master plans has failed to produce a satisfactory answer.

B. PROGRAM DIRECTIVES

Objective and Criteria: Determine the relevance of official master planning procedures and documentation to the fulfillment of stated program objectives, goals and policies.

The evaluation is based on review of historical and current Navy master planning directives and responses to the master planning survey conducted for this paper.

Background: The Navy master planning directive describes a precise methodology for accomplishment of master plans. The major elements of procedure are; preparation of a scope of work, pre-planning conference (at the installation), data collection, (field investigation of the installation physical plant and discussions with key departmental personnel), planning analysis and concept development, coordination and review (local and headquarters level), publication, submittal, approval and updating.[14]

The directive also prescribes a model for format and contents of the master plan document. Format items include an executive summary, introduction, area factors (regional and vicinal considerations), installation description (existing conditions, mission and tasks, base loading, organization structure, functional inter-relationships, etc.), planning

analysis and development concepts, and recommendations, with appendices. The current instruction also requires an environmental impact assessment, an energy conservation plan, and a capital improvement plan, as supplemental elements. Contents items include various maps and plans, augmented by charts, graphs, tables, diagrams and photographs as necessary to describe the situation and proposals.

Discussion: Considerations of procedures and documentation are treated separately and are based on findings of the master planning survey.

1. Results of the survey indicated general agreement among participants that the master planning procedures outlined in the directive are "moderately" relevant to satisfaction of the stated goals, objectives and policies of the program ("2.1" average on a "1" to "5" basis).

   The NAVFAC Engineering Field Divisions believe that the methodology is too extensive and that portions are irrelevant to the desired product; NAVFAC Headquarters and the Consultants believe the methodology is satisfactory as stated. Staff considers both field investigation, and planning analysis and concept development, to be the elements of the methodology

most sensitive to master plan quality. Consultants believe the scope of work, including program requirements, is the most sensitive element. This is predictable, considering their contractual relationship to the program.

There was general agreement that coordination and review is the most troublesome element of the methodology, and Consultants also cite data collection as a problem area. Coordination and review is accomplished at several levels and at several stages in master plan development, with each iteration requiring a different approach in the presentation method. Experience has shown this to be a costly, time-consuming, and often frustrating process. The same can be said for data collection, as available information is often incomplete and out-of-date, requiring additional field work and communication. Although not surveyed on methodology, the Installation responses suggest a need for more reliance on quantitative data regarding facilities requirements and assets.

There was a definite indication that more flexibility is needed in master planning procedures, permitting interpretive judgment to suit individual circumstances.

2. Results of the survey indicated general agreement that the prescribed format and contents are "moderately" relevant to satisfaction of the stated goals, objectives and policies of the master planning program ("2.1" average on a "1" to "5" basis).

Staff and Installations consider that planning analysis and development concepts are the elements of documentation most important to master plan quality and usefulness. Consultants believe the executive summary to be the most important, as it is often all that's read by management.

There was general agreement that area factors are the least important element of the documentation, as they are often irrelevant to the master plan objectives. If retained, this element should be reduced in scope and related explicitly to master plan considerations. Staff also cited installation description, and Consultants, introduction, as relatively unimportant, as they are somewhat redundant and subject to early obsolescence.

Installations would like to see the approved Basic Facilities Requirements List included in the documentation, together with a project priority and phasing schedule. Also, the Installations

noted that the master plan document has not proven to be very useful in preparation of project submittals, day-to-day management of the physical plant, and facilitation of community interface.

Conclusions: Based on the findings of the master planning survey, the following are concluded for program directives related to procedures and documentation:

1. The methodology prescribed for master plan preparation is generally satisfactory, but could be more generalized and condensed. The historical tendency has been toward preoocupation with detailed procedure, which inhibits flexibility in its application. Once the purpose and final configuration of the plan are known, the procedures necessary to reach these ends should be a matter of formative professional judgment.

   The tendency to detailed procedure has not diminished; the most recent master planning directive runs for 44 pages - the original directive only 24. Allowing for changes in format and discounting dissimilar material, the current instruction requires 31 pages to describe what its predecessor said in 12 pages. It can be argued in truth that planning issues have

grown more complex, and that the procession of mandatory planning requirements is hardly diminishing. But it appears that the master plan program may be trying to do too much; perhaps, more than it needs to. The audible complaint that master plans take too long to prepare is scarcely appeased by the addition of supplemental requirements. It seems a characteristic of bureaucracies to meet pressure for reform by adding layers of responsibility to existing requisites. If Command policies for responsiveness are laid against the new instruction, the Navy's master planning program may be in danger of serious over-commitment.

2. The documentation prescribed for master plans is generally satisfactory in terms of its relevance to program goals and objectives. The finding that installations apparently derive little operative value from their master plans, however, is disappointing; it suggests that either the document format be modified, or the proposed statement of purpose be limited to known productive uses. The current directive appears to opt for the former, as it has added several mandatory plan elements, including an "Energy Conservation Plan" and a "Capital Improvement Plan". These will doubtless be welcomed by both

the installations and headquarters level commands. As noted earlier, however, they will certainly frustrate efforts to produce master plans in a "timely manner". Furthermore, their ultimate value will depend on their accuracy and completeness, requiring possible trade-offs in other areas of planning responsibility.

3. There is little discussion of quality in the master plan directives. The fundamental difference between General Development Maps (which preceded master plans and are still in use to portray existing and planned facilities development) and master plans, is that the maps can only describe proposed development in terms of "what, where" and "how much"; master plans also state "why, when" and "how". These are the qualitative elements which are unique to master plans and are deserving of conspicuous mention in the basic planning instruction.

C. PROGRAM OUTPUT

Objective and Criteria: Determine the extent to which master plan output has met the assigned goals and targets of the program, considering both initial preparation and periodic updating of plans.

The evaluation is based on master plan accomplishment schedules, goals and policies for updating, and records of current and targeted achievements, all received from NAVFAC Headquarters.

Background: The original Navy master planning directive, of June 1968, listed 137 major Naval and Marine Corps installations and complexes for which master plans were required. Seventeen of these plans had already been prepared, leaving a balance of 120 plans to be accomplished in a stated five-year time frame. The enclosed schedule, however, called for this work to be performed between fiscal years (FY) 1969 and 1975, inclusive; therefore, a seven-year time frame is used for purposes of evaluation.

A subsequent revision of the original directive, dated March 1971, stated a requirement to update master plans on a three-year cycle, "resources permitting".

Within the seven-year planning period, 20 additional master plans were assigned, but the original schedule was not adjusted to accommodate the increased requirements. NAVFAC Command policies and goals regarding master plan preparation and updating are stated in Section II. A., "Program Objectives", and are used for evaluation of the program output discussed in this section.

Current Status: As of 1 July 1975 (the end of FY 1975), the NAVFAC Master Plan Status Report gave the following information:

Master Plans completed	65*	(22 by contract)
Master Plans underway	32	(6 by contract)
Master Plans remaining	43	

*excludes the 17 plans completed prior to FY 1969

In addition to these master plans, two "Air Installations Compatible Use Zone" (AICUZ) plans were completed in 1975. Thirty-two AICUZ plans were underway, and 47 were remaining, with program completion targeted in 1979. AICUZ plans are a recent requirement and a separate planning program. They are comparable to master plans in scope and complexity and are the responsibility of the NAVFAC master planning branches. Although they are prepared by planning service contract, they are a time-consuming responsibility which was not anticipated at the outset of the master plan program.

The Master Plan Status Report shows further that 15 master plan updates were completed through FY 1975 and 25 updates were underway. The total number of master plans requiring updating as of that date, according to a three-year cycle (i.e., plans completed through FY 1972), was 56.

Discussion: Of the 55 initially-targeted master plans completed through FY 1975:

45 were completed later than scheduled (1 to 6 years)

8 were completed earlier than scheduled (1 to 3 years)

2 were completed on schedule

The average completion date was 2.01 years later than scheduled.

Of the 15 master plan updates accomplished, only two were started within three years after the plan was completed. The interval ranged from 2 to 13 years, with the average interval being 5.26 years.

Two assumptions are made in order to allocate performance credit in the evaluation:

1. Master plan preparation or updating underway is given 50 percent value of a completed effort;

2. Master plan updates completed within three years of initial preparation represent 50 percent of the effort required for initial preparation; updates completed within four years represent 75 percent of the effort; and, updates completed within five years or more represent 100 percent of the effort.

Completion of 55 master plans between FY 1969 and FY 1975, of 120 plans initially assigned, is only 45.8 percent of the total. Adding credit for master plans underway, (23 x 0.50), gives an equivalent completion total of 55.4 percent; adding credit for the additionally assigned master plans completed, (10 x 1.00), and underway, (9 x 0.50), gives an equivalent completion total of 67.5 percent; a somewhat more respectable accomplishment. Figure 6 shows relative values of targets and accomplishments for master plan preparation. The average rate of completion as visualized in the directive is 17.1 master plans per year; the actual rate has been 11.6 plans per year, allowing for work underway. At this rate, the remainder of 75 assigned master plans will require 5.09 years to complete, and so will terminate that aspect of the program late in 1980.

Completion of 15 master plan updates between FY 1969 and FY 1975, out of 56 master plans eligible on a three-year cycle, is only 26.8 percent of the target. Adding credit for updates underway, (25 x 0.50), gives an equivalent update total of 27.5 plans, or 49.1 percent of the target. This record still leaves much to be desired.

The original master planning directive did not specifically address updating and may be assumed to have considered only original preparation. If all resources expended in master plan updating could have been applied to initial plan preparation, the output would have been more impressive. Using the criteria assumed for master plan updating, expressed as a percentage of initial preparation effort, updating work to date would translate into the equivalent of 25.5 additional master plan completions. The total completion equivalent would then be 106.5 master plans, or 88.0 percent of the original target. Figure 7 shows relative values of targets and accomplishments for master plan updating.

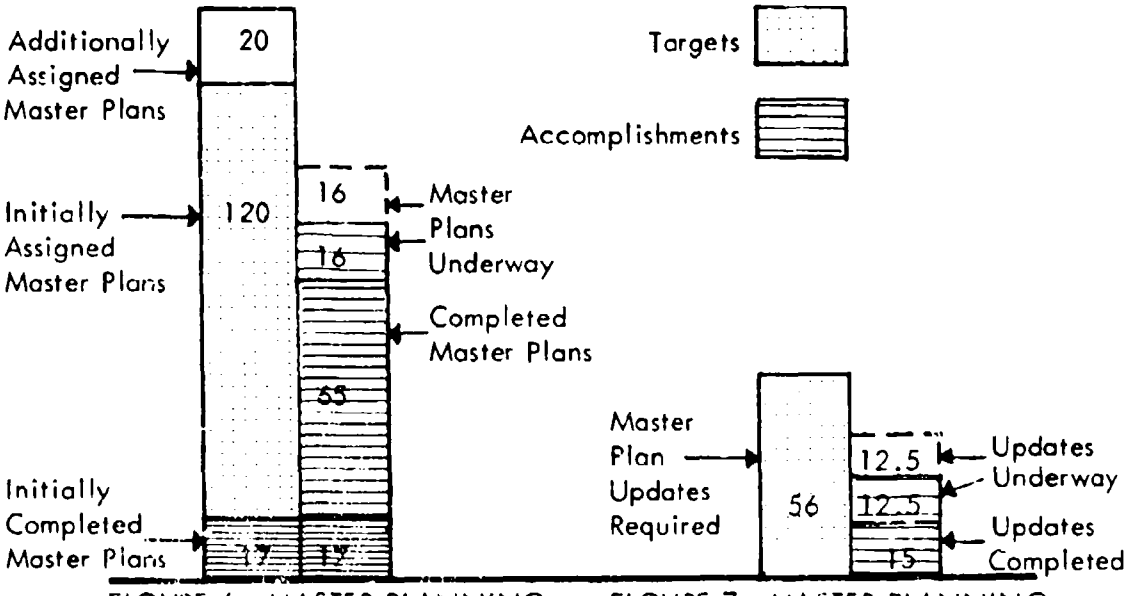

FIGURE 6: MASTER PLANNING TARGETS & ACCOMPLISHMENTS

PREPARATION

FY 1969-1975

FIGURE 7: MASTER PLANNING TARGETS & ACCOMPLISHMENTS

UPDATING

FY 1969-1975

Whatever the intent of the original master plan directive, regular updating is a practical necessity and cannot be ignored in the evaluation. A DELPHI study was conducted by NAVFAC Headquarters in 1972 to obtain a concensus on certain features of the master planning process.[15] The study originated out of concern over the growing master plan workload which had to be accomplished with limited and/or diminishing resources. One conclusion of the study was that regular updating is essential to the usefulness of master plans, and that the interval should not exceed three years.

Figures 8, 9 and 10 chart the targeted and actual master plan accomplishments for preparation and updating, respectively, from FY 1969 through FY 1975, and project the schedules and accomplishments through completion of the respective cycles.

Figure 8 shows the chronological backlog of: (1) original master plan preparation targets, as established by the initial directive; (2) "revised" targets, adjusted to reflect the addition of 20 new master plans to the total requirements; and, (3) actual "net" accomplishment as an incremental reduction of the backlog, considering both initial targets and new master plan requirements at the time of their introduction. Figure 9 shows similar information, but in reverse progression; that is, actual targets and accomplishments in ascending order.

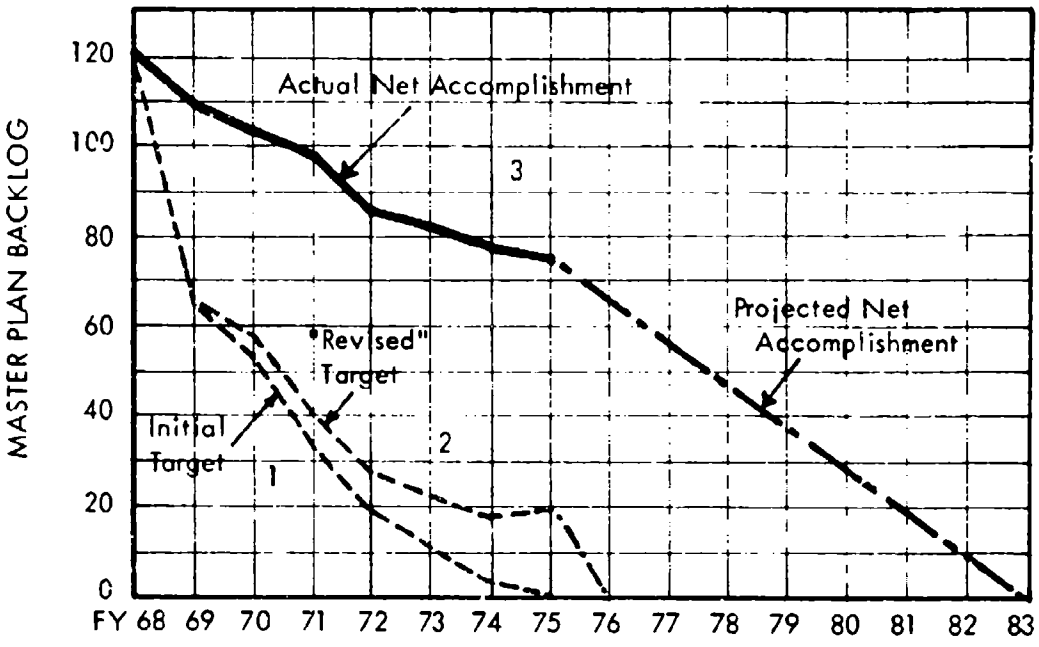

FIGURE 8: MASTER PLAN PREPARATION BACKLOG

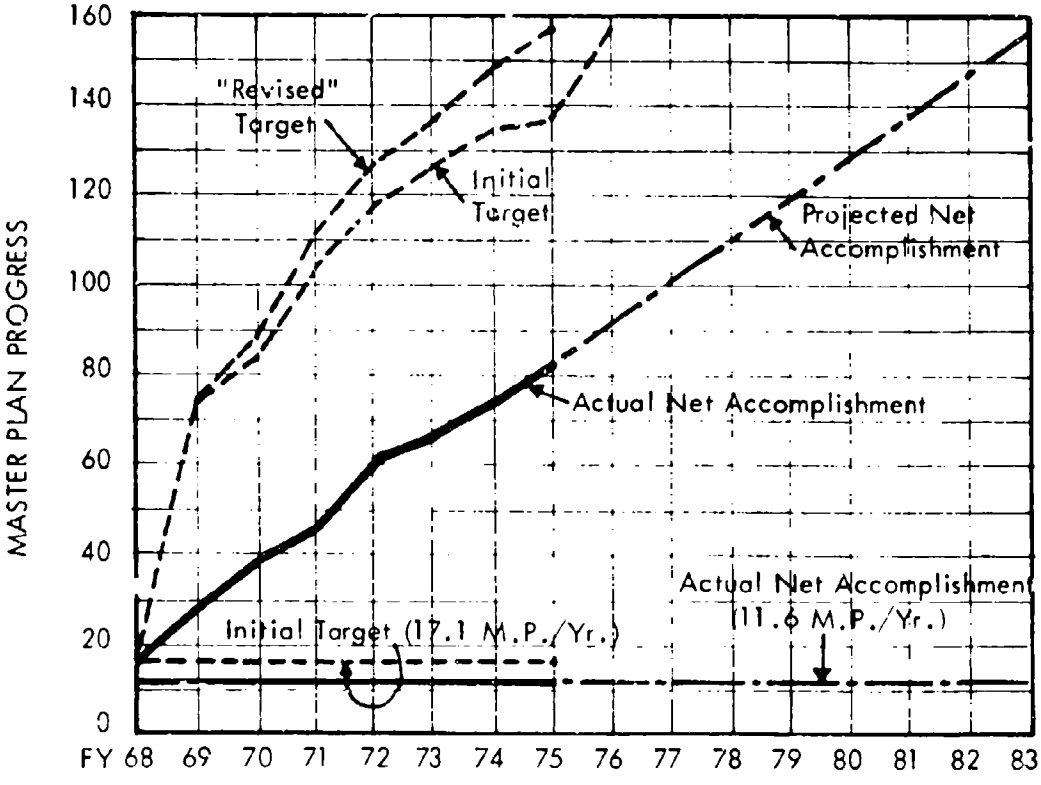

FIGURE 9: MASTER PLAN PREPARATION PROGRESS

It can be seen from these charts that:

1. A wide disparity between targets and accomplishments was generated in the first year of the program and has not been closed in subsequent years;

2. The actual rate of master plan accomplishment has been reasonably uniform, therefore, the 32 master plans shown as underway in FY 1976 will probably not be completed before FY 1979;

3. Based on the average rate of master plan accomplishments (9.3 plans per year), and if no more new plans are assigned, the present backlog of 75 master plans can be completed by the end of FY 1983.

Figure 10 shows the chronological sequence of: (1) master plan updating targets, based on a three-year cycle and the preparation schedule contained in the initial directive; (2) "revised" updating targets, based on a three-year cycle and adjusted to reflect the addition of 20 new master plans to the total requirement at the time of their introduction, (3) "corrected" updating targets, based on a three-year cycle and adjusted to reflect the actual rate of accomplishment, for both initially assigned and additional requirements; and, (4) the actual master plan updating accomplishments--an average of 3.75 plans per year.

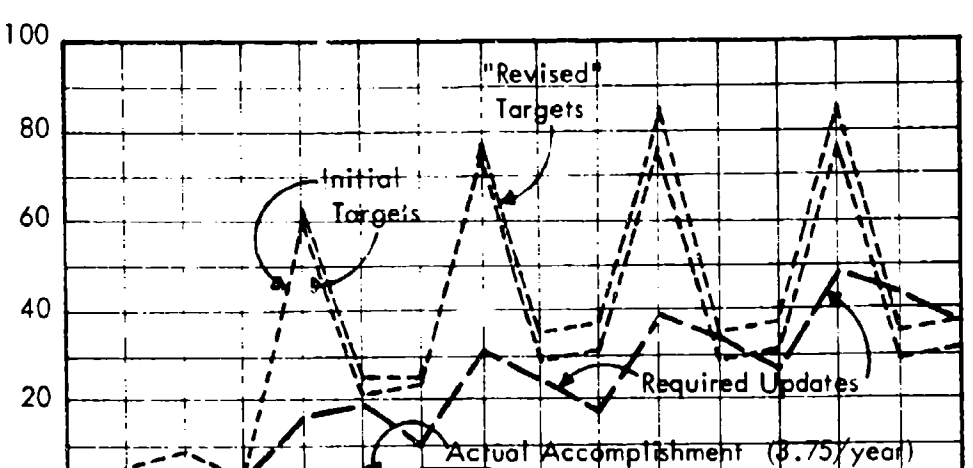

FIGURE 10: MASTER PLAN UPDATING SEQUENCE

It can be seen from this chart that:

1. Master plan updating targets, based on a three-year cycle for initially assigned and additional requirements, have extremely wide annual fluxuation, varying from 25 to 85 updates per year. A constant three-year cycle would begin in FY 1976;

2. Updating targets, based on a three-year cycle for actual master plan accomplishments, would have less annual fluxuation, varying from 18 to 58 updates per year beyond FY 1975. A constant three-year cycle would begin in FY 1984;

3. The average actual accomplishment to date is 3.75 updates per year, far below the desired rate. If this rate is maintained until FY 1984 (at which time all assigned master plans would be completed at the present preparation rate), the backlog of targeted master plan update actions will be 311.4! This is an impressive deficit, but hardly fair, since unaccomplishment targets have been compounded on a triannual basis. The actual backlog at that time, in terms of delinquent updates, would be 84. This is still a lot of work.

Theoretically, all planning effort beyond FY 1983 can be directed toward updating, as all scheduled master plans will have been completed. Assuming that an update accomplished on a three-year basis represents half of the effort required for initial preparation, updates can proceed at the rate of 22.35 per year (twice the average historical preparation rate of 9.3 plans per year, plus the current update rate of 3.75 plans per year). The demand, however, will be for 52.3 updates per year, as can be seen on Figure 10. Therefore, it will be impossible to meet the stated objective under the given criteria.

One alternative is to use a five-year update interval. Under this approach the required number of annual updates, upon reaching cycle equilibrium in FY 1984, would range from 27.7 to 41.7. This range is still beyond the theoretical capability of the program under the present arrangement. Furthermore, updating on a five-year cycle would require much more effort per unit that a three-year cycle--perhaps twice as much--as has been assumed. The theoretical capability for updating on a five-year cycle would be only 13.05 master plans per year.

It seems reasonable to assume that not all master plans will require updating every three years; many could be extended to five years or more, and few would become obsolete in less than three years. Furthermore, updates accomplished by planning service contract require less "in-house"

effort than those accomplished wholly "in-house". Only one of the 15 updates completed through FY 1975 was made by contract. If "in-house" planning resources utilized in planning service contract administration can result in two or three times the master planning productivity than when used wholly "in-house", it appears that the requirement for master plan updating on a three year interval can be satisfied in this manner.

Records of manhour expenditures at Western Division, NAVFAC, indicate "in-house" administration effort for planning service contracts to be approximately 17 percent of the effort required for exclusively "in-house" accomplishment. A trend toward increased use of planning service contracts for updating is already apparent; eight of the 25 updates now "underway" are being done in this manner.

Conclusions:

1. The output of the master planning program has not met its stated goals and targets in terms of initial plan preparation. The DELPHI study conducted by NAVFAC in 1972 showed unanimous agreement among participants that master plan output was inadequate, and that means to higher productivity must be found.[16] The master planning survey conducted for this paper conceded that output has been only "fair", receiving a value of "2.4" on a "1" to "5" basis; "1" being the highest. Another source of

opinion was found in a "Market Survey" conducted by NAVFAC in early 1975.[17] The Survey assessed the performance of all NAVFAC functions through the eyes of staff civil engineers or public works officers at the installations served. On a rating scale of "1-to-9", master planning was given a "potential value" of "7.3" and a "performance value" of "5.9". This placed master planning 12th out of 14 functions conducted within the NAVFAC planning departments. The average "performance value" for all NAVFAC functions was "6.3".

It is assumed that NAVFAC planning resources have been allocated on the basis of "in-house" accomplishment of the initially targeted master plans, through full-time effort of the assigned personnel. Had this situation been realized, it seems probable that the targets would have been met. The master planning survey indicated that only about 50 percent of the master planning teams' time is spent on "in-house" master plan preparation. If this figure were 100 percent, and a corresponding output rate maintained, 135 master plans could have been prepared through FY 1975 and the target would very nearly have been met.

2. Addition of new master planning requirements (including AICUZ plans) has inhibited accomplishment of the initially assigned plans, and diversion of master planning personnel to other, non-targeted planning studies has reduced master plan output substantially. The master planning survey indicated the major deterrants to output were, in order: (a) interruptions due to "brush fires" and other priority, non-targeted workload; (b) inadequate personnel resources; and, (c) extensive periods for master plan presentation and review. It appears that the first obstacle could be reduced by change in local management policies or in distribution of personnel resources; the second, by using more contract planning services to augment "in-house" capabilities; and, the third, by revision of basic planning procedures and requirements. These issues are discussed at length in Section II. F., "Program Management".

3. Higher master plan productivity appears necessary, particularly in the updating process, if the program is to be responsive to the stated NAVFAC Command policy of timeliness..."to provide a basis for orderly programming and budgeting."[18] Military construction programming and budgeting are continuous functions which are reviewed annually for Congressional

appropriation. A master plan that is out of date (let alone, non-existent) cannot provide the decision making guidance needed and is, consequently, of little or no value. The majority of master plans are sufficiently out of date within three years to reduce their optimum value; further delays not only compound the loss of value, but entail a larger planning effort in the updating process.

4. Master plan updating has met neither the stated goals and targets of the program, nor the NAVFAC performance goal to "reduce the backlog of master plans over five years old to 20% of total".[19] The backlog of master plans over five years old was 22 in July 1975--33.8 percent of the total number of plans completed. The problem is one of priorities. Master plan updating has been subordinated to initial plan preparation, with needed updates being routinely deferred. As the initial preparation cycle approaches finality, increasingly more resources can be allocated to updating; but "in-house" capabilities will never be adequate to fully meet the demand. More reliance on planning service contracts is the most obvious solution, but it has some problems:

a. It is counter to stated NAVFAC policy, which favors "in-house" planning, "...to the maximum extent practicable."[20] This policy is also consistent with opinions rendered in the master planning survey, which indicated a unanimous preference for "in-house" accomplishment. Contract planning services are considered to be of somewhat lower quality than "in-house" efforts;

b. It would require additional funding. To maintain required updates at three-year intervals, and utilizing "in-house" resources to capacity, contract planning services would be required for an average of 34 updates per year through FY 1983, and for 30 updates per year thereafter; the balance being performed "in-house" in each case.

5. The NAVFAC support goal to "limit effort devoted to untargeted planning studies to 15% of effort",[21] has apparently been met--but barely. The master planning survey indicated this effort to be 14 percent of the aggregate Master Planning Branch workload in FY 1975.

6. Master plans take too long to prepare. A sampling of 15 master plans completed by Western Division, NAVFAC, between July 1965 and December 1974, took an average of 21.8 months to complete, and an additional 3.9 months to publish; a total of 25.7 months with a range between 12 and 46 months. Extended delays in preparation time were due, in some cases, to temporary suspension of effort in favor of other priority work. The primary cause of delay, however, was extended periods of review, which

are conducted at local, field and headquarters levels, and at various stages of plan preparation. A sampling of 12 master plans prepared by contract for Western Division, NAVFAC, between February 1968 and the present, expended an average of 22.4 weeks for reviews at all levels, with a range between 11 and 39 weeks.

Responses to the master planning survey indicated an "optimum" preparation time for a master plan of "typical" complexity of 9 to 12 months, including an allowance of approximately nine weeks for reviews. There is obviously a wide disparity between "what ought to be" and "what is", in terms of master plan productivity. This is a common situation and is understandable. It is noted, however, that actual master plan completion dates have exceeded those initially scheduled in every case, sometimes by as much as 100 percent.

D. PROGRAM COST

Objective and Criteria: Estimate the total cost of the Navy's master planning program to the present, and to the completion date of all initial preparation efforts. Relate program cost to program output and determine whether the Navy is getting its "money's worth".

The evaluation is based on a historical record of monetary allocations and actual expenditures for master planning, both locally and Navy-wide.

Background: The Navy's master planning program, unlike the more familiar federal programs, is not a dedicated, single-purpose, limited duration activity with a fixed appropriation. Therefore, costs and outputs can be measured and compared, but not correlated in terms of goal attainment. According to Dror,[22] the primary criterion of net output is usually hard to identify, let alone to measure, in a social process such as master planning. Where an output of professional service is related to dollar input, even secondary criteria are elusive, and the best that can be hoped for is a better guess as to whether the money is being wisely spent.

According to data furnished by NAVFAC Headquarters,[23] the Navy spent approximately $10,527,000 on the master planning program between FY 1969 and FY 1975, inclusively. This is the estimated total cost for

preparation and updating of master plans and regional complex plans, including planning service contract fees and associated "in-house" administrative costs. It is based on direct labor and overhead for all professional, administrative and technical support services required for program accomplishment, including travel and printing costs.

The figure is approximate as the method of accounting has varied from year to year, and consistent data is not available for all years considered. As example, costs for FY 1971 and 1972 are based on fund allocations rather than actual expenditures, and costs for FY 1969 and 1970 have been estimated, as no data is available for this period. The estimate uses a straight line projection from the mean of FY 1971-1975, but discounted to allow for 5.50 percent average annual inflation.

No credit has been given for master plans "underway" at the end of FY 1975, since some number of plans were also "underway" at the beginning of FY 1969. This is assumed to constitute a balance for evaluative purposes.

Discussion: Figure 11 shows annual master planning allocations and expenditures on both incremental and cumulative bases, for the FY 1969-1975 time frame. Figure 12 shows "adjusted" allocations and expenditures as compared to master plan output, on both incremental and cumulative bases for the same time frame. The "adjustment" was made to

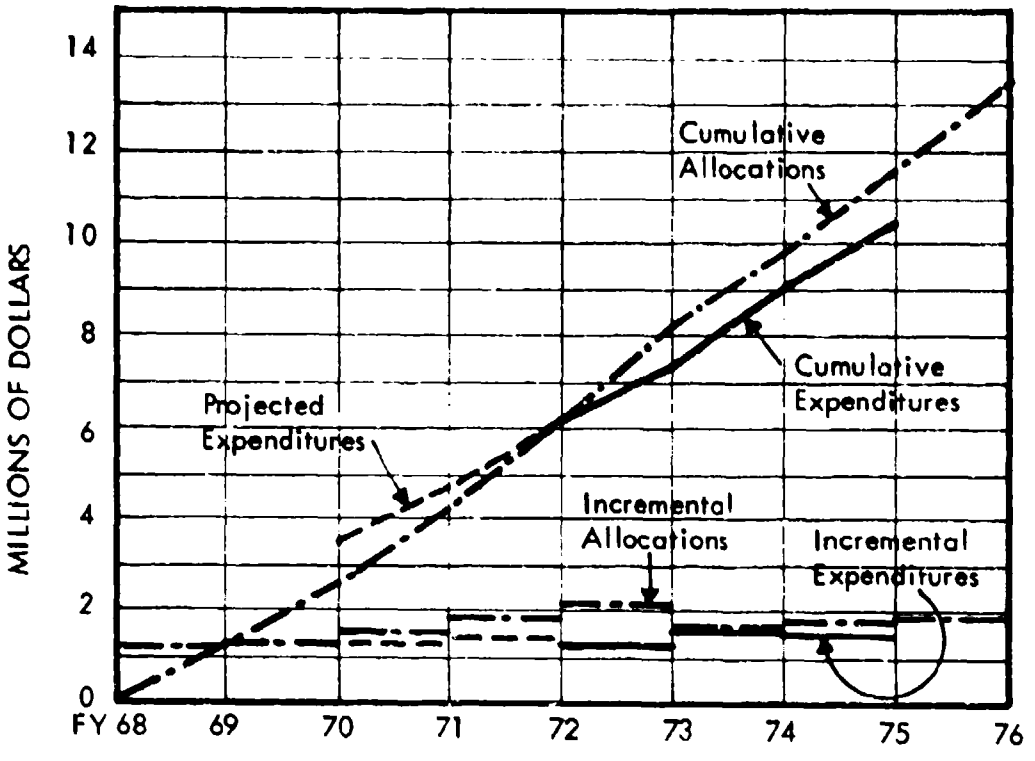

FIGURE 11: MASTER PLANNING ALLOCATIONS AND EXPENDITURES

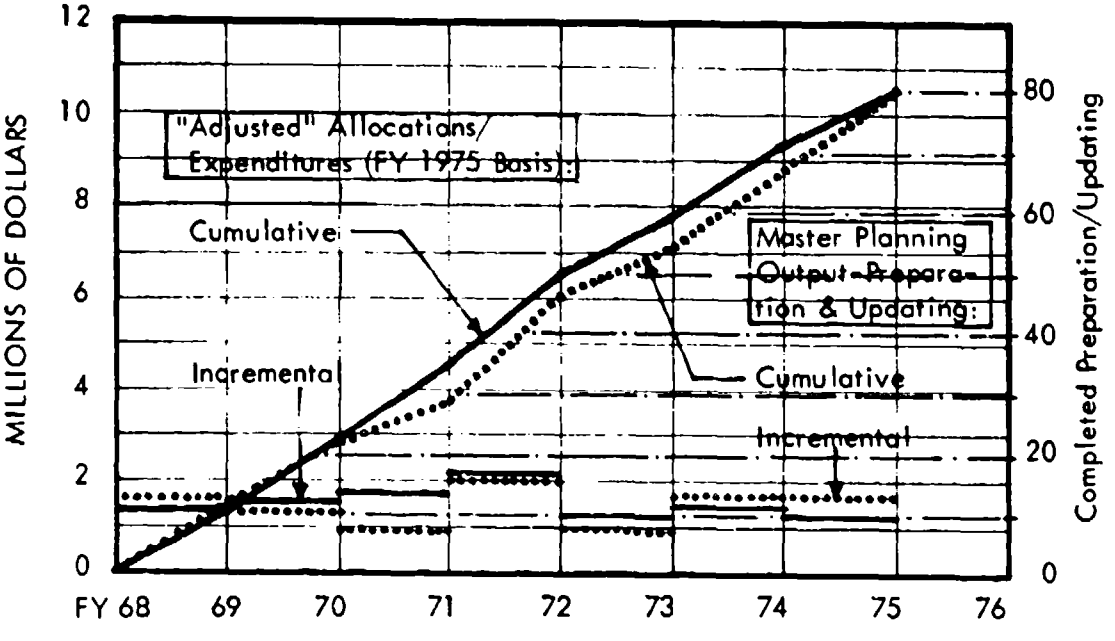

FIGURE 12: MASTER PLANNING COSTS VERSUS OUTPUT

neutralize the impact of inflation on incremental funding, assuming an average cost growth rate of 5.50 percent per year, compounded. Master plan output includes both initial preparation and updating, a total of 80 units. These have been correlated with total expenditures on the basis of uniform cost per unit. It has been assumed, for this purpose, that a master plan update is equivalent to initial preparation, and that all units of output are equal in effort and cost.

Figure 11 shows that allocations have exceeded expenditures since FY 1972 and that, prior to that time, expenditures may have exceeded allocations. This reflects a probable shift in priorities from earlier emphasis on assigned program targets to later emphasis on associated planning support services. In essence, a portion of the funds allocated to targeted master planning tasks were diverted to non-targeted efforts which, apparently, were given priority. This assumption is reinforced by the responses to the master planning survey conducted for this paper, which confirmed a recent and growing trend in this direction.

Figure 12 shows that the rate of master plan output has generally been lower than that for corresponding expenditures, based on equivalence at the initial and terminal positions. Both output and expenditures have varied significantly from year to year, but have been mutually compensating.

In all, preparation and updating of 80 master plans have cost approximately $10,527,000, or an average of $131,600 per unit. Translated into FY 1975 dollars, this is an equivalent expenditure of $12,504,000, or $156,300 per unit. The portion of this total attributable to initial preparation (65 units) is $10,159,000. Therefore, the estimated cost in FY 1975 dollars for completion of the 75 remaining master plans is $9,222,000, (32 plans "underway" x 0.50 + 43 plans remaining x 1.00, at $156,300 per unit). At completion of the master plan preparation cycle, then, the program will have cost approximately $19,380,000 in FY 1975 dollars, exclusive of future updating expenses.

Comparative costs for "in-house" versus contract accomplishment are not readily available. To obtain an approximation, a survey was made of 24 master plans prepared or updated by contract between FY 1971 and 1975. The 24 plans had an aggregate cost of $1,873,000, or an average of $78,000 per unit. To this must be added the "in-house" costs for contract administration and printing, which averaged $13,500 and $6,000 per unit, respectively. Thus, if a contract master plan cost averages $97,500 per unit, the 15 units accomplished in this manner cost $1,463,000; it then follows that the 65 "in-house" units cost $9,044,000, or an average of $139,300 per unit.

Conclusions: "In-house" master planning has cost perhaps 40 percent more than equivalent work by planning service contract. Direct labor costs for private firms are assumed to be equivalent to those for NAVFAC staff. Therefore, considering that private firms characteristically have overhead factors in the range of 150 percent (versus about 30 percent for NAVFAC), and are also paid profits in the range of 15 percent of direct costs plus overhead, it is obvious that substantially more time is spent on "in-house" accomplishment than on contract work.

It can be argued that the more ambitious, thus time-consuming, projects are normally done "in-house". This appears to be true; nevertheless, the conclusion is inescapable that, while "in-house" accomplishment is preferable in terms of end-item quality, contract performance is more "efficient" in terms of product yield per dollar expenditure. It is probable that private firms under planning service contracts maintain a higher sense of urgency for accomplishment than do Navy staff planners on permanent salary status. Furthermore, private firms are undoubtably less subject to distractions and interruptions than are Navy planners, who must respond to many calls. It is almost certain, though unproven, that frequent interruption causes delays through redundancy, which are additive to "actual" time lost through the interruption itself. Responses to the master planning survey indicated frequent interruption to be, increasingly, a "way of life" for Navy planners.

The questions remaining, then, are; (1) is the Navy getting its "money's worth" from the master planning program, and (2) should "in-house" accomplishment be maintained as the preferable option over planning service contracts? Stated in more explicit terms, as provided by this research; (1) is $139,300 a "fair" price to pay for a "typical" "in-house" master plan, or $97,500 for a "typical" contract plan, and (2) is the superior quality of an "in-house" plan worth an average of $41,800 more than a contract plan.

The questions are somewhat inter-related, but neither can be answered with finality. Considering absolute costs, it can only be concluded that the maximum probable cost of an installation master plan is less than the minimum probable acquisition cost of any of the proposed facilities projects which it addresses. For example, a master plan costing $100,000 may recommend construction of 20 projects estimated to cost $10,000,000. If one percent of this estimated construction cost can be avoided through application of master plan guidance, then the plan has paid for itself in dollars. One private planning contractor estimated, in 1958, that accrued savings of three to five million dollars could be attributed directly to the availability of master plans for two Naval installations in the Pacific area. A time-saving of several months, perhaps a year, was also attributed to the presence of a master plan for incremental facilities development at these locations.[24]

A more negative view is expressed by another executive:

> "I do not believe that one can usefully come up with dollar earnings or dollar savings attributable to the long-range planning function. This is because usually the function is a necessity to the conduct of a business which survives, and the real question is whether it is formally recognized as a separate and distinct function or one which is joined with other functions and does not get clearly demarcated."[25]

Long-range planning certainly gets clearly demarcated in the Navy, but the monetary benefits, if any, are elusive. It cannot be assumed that a savings of $10,527,000 to date would have resulted from having not conducted the master planning program. The master plan staff performs a variety of ancillary planning services which, in the absence of the program, would have required additional staffing. These services include collection and distribution of planning data, facility siting review, consultation, and graphic support. It is difficult to assess the value of these services independently, but they could reasonably equal up to 25 percent of the total program cost, or $2,632,000.

"In-house" planning does have a number of spin-off benefits which, when added to the greater value of the completed master plans, suggest the NAVFAC Command policy of favoring "in-house" accomplishment be maintained. For example, a wealth of peripheral knowledge is accumulated during the master planning process, which can be of considerable value in subsequent applications. Under contract accomplishment,

this knowledge is gained by the consultant, but is all but inaccessible to the Navy. Furthermore, it is probable that the more direct personal involvement of "in-house" service conveys a higher sense of responsibility and competence to the plan beneficiaries, thus adding insurance to the likelihood of the plan staying "on track".

E. PROGRAM EFFECTIVENESS

Objective and Criteria: Determine the performance level of the Navy's master planning program in terms of its effectiveness in: (1) guiding subsequent physical development consistent with master plan recommendations; (2) producing an improved physical environment consistent with specific beneficiary needs; and, (3) satisfying additional requirements of the Naval establishment and the civilian community.

The evaluation is based on questionnaire responses from the master planning survey, recommendations of selected installation master plans, and data on in-place and programmed construction at these and other military installations.[26]

Procedure: The analysis is focused on two separate considerations of program effectiveness. The first portion is addressed to master plan implementation; it examines the integrity of the master plan process in affectuating recommended development in quantitative terms, considered as a "batting average". Melville Branch calls implementation, "...the vital essence of real planning and the most difficult part of the process."[27] While he was referring to planning in the metropolitan sector, the process is equally important in the military. If less complicated, it is still marked by uncertainty and compromise.

Within the purview of NAVFAC responsibilities, master plans are implemented through the processes of construction programming, facilities site review and certification, General Development Map administration, and continuous liaison with the various installations and their chains-of-command. None of this guarantees early funding of priority projects, but it all attempts to keep incremental facilities development "on track" with the intent of the master plans.

Both conventional benefit-cost analysis and controlled experimentation were inappropriate to the nature of this research, due to limitations of time and data.[28] "Time-trend" projections were likewise inapplicable for similar reasons, and also because the results would be highly inconclusive.[29] The evaluative methods used, then, were limited to adaptations of "before versus after" comparison, "semi-controlled experimentation, and "planned versus actual" comparison.[30]

Of 41 West Coast candidates, ten Naval installations - representing a good cross-section of size and mission characteristics - were selected for comparison. Five of these installations had master plans which were completed in the 1969-1971 time frame and thus have had at least five years' experience in their use. The other five installations did not have master plans completed as of 1 July 1975 and thus have developed to the present in "unplanned" fashion.

For installations with master plans, the evaluation sought answers to the following questions:

1. What were the conditions existing just prior to the inception of the master plan process, in terms of recognized facilities requirements or deficiencies and planned physical development?

2. What changes to these conditions were proposed through the master plan process, in terms of additional facilities requirements generated, modification of previous planning, and additional physical development proposed?

3. What has happened since completion of the master plan, in terms of proposed physical development accomplished, programmed or dropped, and additional development accomplished or programmed?

For the five installations without master plans, accomplished or programmed facilities development was compiled for the same time frame and analyzed for comparative purposes.

Since a quantitative analysis yields results only as valid as the data input, certain assumptions need to be made to form a more equitable basis for comparison:

1. The master plan program did not, in most cases, develop "new" facilities requirements, but crystallized those previously unidentified;

2. Conditions viewed as substantive benefits of the master plan process include; (a) any "new" facilities requirements that could, in fact, be attributed to the master plan process, particularly if they have been built or included in current construction programs, and (b) major changes in pre-existing land use or

siting of proposed facilities affected through the master plan process;

3. Conditions viewed as substantive deficits of the master plan process include; (a) changes in proposed land use or siting of facilities subsequent to completion of the master plan, and (b) facilities projects proposed by the master plan and subsequently dropped.

4. "New" projects, initiated since completion of the master plan, are considered benefits, if judged to conform to the basic plan, and deficits, if judged to be non-conforming;

5. Most of the projects proposed by the master plan and either built or included in current construction programs would have fared the same without the plan. That is to say, there is no bonus for having a master plan in terms of securing funding for needed development.

6. Comparative physical development analysis should exclude utilities systems, as they are often neglected in the master plan process and are, in fact, subservient to the superstructure of operational facilities.

The second portion of the analysis is addressed to master plan value; it assesses in qualitative terms, the effectiveness of master plans in satisfying the major perceived needs of installations and other program beneficiaries, and estimates the benefits derived by the presence of master plans which would have been precluded by their absence.

This evaluation has been drawn exclusively from opinions rendered in the master planning survey. Accordingly, the findings are totally subjective. Were ample time and data available, the evaluation could

have been made on a more objective and quantitative basis. For example, master plan effectiveness could be related directly to program goal accomplishment in terms of:

1. Facilities operational and maintenance costs - (lower?)
2. Community relations - (fewer complaints?)
3. Workload output - (higher or of better quality?)
4. Personnel morale - (fewer complaints or disturbances?)
5. Facilities site development costs - (lower?)
6. Lead time for facilities acquisition - (shorter?)
7. Pollution control and energy conservation - (better record of abatement and savings?)
8. Capability to accept unforeseen change - (improved?)

This depth of analysis may be accomplished at a later date, but the format and criteria could be established now and data collection could begin immediately.

Analysis: The master plans for the five installations selected proposed 232 facilities construction projects for implementation, excluding utilities projects. Of these, 70 were pre-existing, of which 56 were accepted without change and 14 were resited in accordance with proposed land use concepts. These master plans initiated 162 "new" facilities projects, some of which can be attributed directly to the master planning process.

Between FY 1971 and 1975, inclusive, 40 projects were constructed at these installations, of which 26 were included in the master plans and 14 were new items, generated by changing requirements. Of the 26 master plan projects, 21 were built in conformance with the plan recommendations and five were built at alternative locations. Of these five, two were the result of the designated site having been preempted for other use, and three were due to inadequacies of the designated site at the time of project design. Of the 14 "new" projects constructed, eight were totally new requirements and six were "substitutes". These "substitute" projects were, without exception, rehabilitiations, expansions, or other modifications of existing structures financed through "non-appropriated funds". They were deemed less expensive or more expedient than new construction, but are considered non-conforming for evaluative purposes. Of the eight totally new requirements, four were considered to be in conflict with the approved master plan concepts.

As of November 1975, 113 projects were included in the current Military Construction Program Objectives[31] for these five installations. Of these 113 projects, 90 have been sited in accordance with the master plan recommendations, and three have been resited due to preemption of the designated sites. Of the remainder, 19 are "new" projects and one is a "substitute" project. The estimated cost of the programmed projects

is $276,829,000. Of the 232 master plan projects proposed, 107 have been dropped due to loss of requirement.

For comparison, the five installations without master plans have had 53 projects constructed in the FY 1971-1975 time frame. They also have 123 projects included in the current Program Objectives, at a total estimated cost of $195,283,000. All of these facilities projects have been reviewed for conformance with applicable planning criteria and have ultimately been approved on that basis.

Graphic comparisons of the above statistics are shown on Figure 13. This data can be related to master plan effectiveness through use of the assumptions made earlier, as criteria, and establishment of appropriate standards. "Positive" values include master plan or "new" projects built or programmed for construction in accordance with approved master plan concepts. "Negative" values include master plan projects or "new" projects built or programmed for construction in violation of approved master plan concepts, "substitute" projects, and master plan projects which have been dropped.

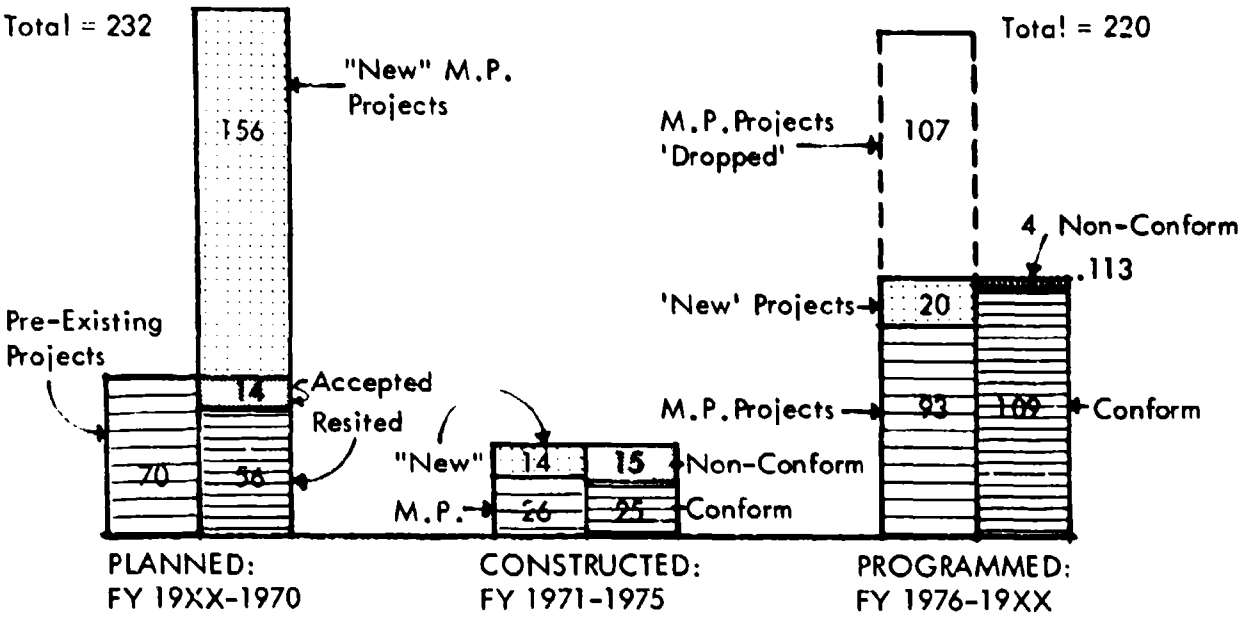

FIGURE 13: MASTER PLAN IMPLEMENTATION STATUS

Master plan projects receive full value; "new", "substitute" and "dropped" projects receive half value; and both built and programmed projects receive equal value, since the master plan process cannot increase the rate of facilities acquisition and should not be penalized for this inability.

The maximum positive value would then be achieved by having all master plan projects built or programmed in conformance with approved concepts, no master plan projects dropped or substituted, and any "new" projects developed in conformance with approved plan concepts. This situation would yield a minimum positive value of +232, the total number of master plan projects proposed. Conversely, the maximum negative

value would be achieved by having all master plan projects built or programmed, and any "new" projects developed, accomplished in violation of the approved plan concepts. This situation would yield a minimum negative value of -232. The "break even" point is thus "zero", which may be assumed to constitute the minimum level of effectiveness tolerable. A reasonable goal, or "par value", may be assumed as lying midway between the "break even" and maximum possible value, or +116. On this basis, then, the five installation master plans examined had an average value of +59, derived as shown below.

ACTION	NO.	IMPACT	VALUE	TOTAL
Master plan projects built or programmed in accordance with approved plan concepts....	111	POSITIVE	FULL	+111.0
Master plan projects built or programmed in violation of approved plan concepts.....	8	NEGATIVE	FULL	- 8.0
"New" projects built or programmed in accordance with approved plan concepts....	23	POSITIVE	HALF	+ 11.5
"New" projects built or programmed in violation of approved plan concepts.....	4	NEGATIVE	HALF	- 2.0
"Substitute" projects built or programmed.....	7	NEGATIVE	HALF	- 3.5
Master plan projects dropped - (total, less "substitutes").....	100	NEGATIVE	HALF	- 50.0
NET VALUE				+ 59.0

The master plan program for the five selected installations has thus achieved about half of the established "par value" for implementation effectiveness. This is indicative of substantial room for improvement, particularly in the retention of master plan projects in the construction program. Additional weighting could have been ascribed to "new" projects developed through the master plan program. It seems that this may have resulted in a trade-off, however, since the aggregate number of master plan projects built or programmed is almost equal to the number dropped.

So much for implementation. We now turn to considerations of master plan quality. Opinions offered in the master planning survey contained few surprises, but lend the weight of evidence to intuitive judgments and speculation. One assumption that must be made here is that acceptance of a master plan by the installation and its chain-of-command, and approval by the Chief of Naval Operations, constitutes achievement of at least a minimum level of acceptability; that is, the plan has met all stipulated requirements. The test for relative quality, then, must look to the program beneficiaries.

Who are the beneficiaries? The assumption that an installation is the only beneficiary of its master plan is a pitfall common to planners and managers throughout the Navy. The totality of master plan purpose is

sometimes obscured by parochial concerns, but in truth, a master plan is different things to different people, and never a single purpose entity.[32] Prevailing local needs are conceded to be first priority, but not to the exclusion of headquarters and departmental level interests. I cannot see a basis for wide divergence, however, if the program objectives have been correctly interpreted.

The results of the master planning survey are summarized as follows:

1. There was general agreement among participants that the master plan implementation procedures relate "moderately well" to the stated program objectives, goals and policies ("2.1" rating on a "1" to "5" basis).

2. Staff believes the ensuing physical development at installations has followed the master plan recommendations "moderately" closely ("2.2" average). Installations believe it has followed only "marginally" closely ("3.0" average). They all agree that, historically, implementation has been closer to the spirit than the letter of the recommendations.

3. Staff believes the most important factor in successful plan implementation is good coordination between all parties involved. Installations believe the most important factor is regular and frequent updating and review of the plan.

4. Suggestions for improving the process of timely and consistent master plan implementation are:

Staff -	Shorten the master plan preparation and review process and provide a staff planner at each major installation.
Installations -	Increase headquarters level recognition of the importance of the master plan and provide regular review and update.

5. The most important real needs for facilities development at most installations are:

Staff -	Definition of general land use boundaries and protection of the installation from community encroachment. (The latter item was rated low by Consultants.)
Consultants -	Satisfaction of all facilities deficiencies and resolution of access, circulation and parking problems. (The latter was rated low by Staff and Installations.)
Installations -	Definition of general land use boundaries and satisfaction of all facilities deficiencies.

6. Staff and Consultants believe the master plan program has satisfied the real facilities development needs of most installations "fairly well" ("1.8" average). Installations believe it has satisfied them only "marginally well" ("3.1" average).

7. There is an apparent divergence of philosophy between interest groups surveyed on the principal value of master plans, which harks back to the conflicts over master plan purpose discussed in Section II. A., "Program Objectives". Staff advocate the concept of generality--that the plans' principal value is as a guide to orderly physical development in terms of compatible land use objectives. Consultants are more problem oriented, believing that the plans' major benefits are the solution of existing problems hampering efficient operations. Installations favor a project approach aimed at a responsive facilities construction program based on phasing of priority requirements and ultimate satisfaction of calculated deficiencies. There was a consensus that all of these items are important, but Installations were more pessimistic than Staff or Consultants on the degree to which they have been successfully accommodated in the master plan program.

8. The major weakness in master plan effectiveness is the inability to anticipate and accommodate change, whether it occurs at local or departmental levels, or is internal or external to the Naval establishment. Unanticipated changes, both "structural" (mission, workload, organization, etc.) and "operational"

(policies, priorities, criteria, etc.) occur too frequently to be dismissed as happenstance, and result in a steady erosion of master plan value.

9. Other limitations to master plan effectiveness are created by lack of interest in the program at both the installation and headquarters levels, inadequate coordination between the various actors in the planning process, and loss of continuity resulting from continual rotation of military management personnel. These factors all relate to program management, rather than program structure, and are discussed in the following section.

10. Despite its imperfections, the master planning program provides a valuable service to the Naval shore establishment. It should be modified as necessary and within the limits of practicality, to increase its effectiveness; but it should not be terminated. It seems ample to observe that the state of Naval facilities planning in the early 1960's, described as "chaotic", prompted establishment of the master planning program as, "...the basic requirement for successful multi-year programming...to upgrade the continuously deteriorating, predominantly World War II Navy shore establishment."[35]

F. PROGRAM MANAGEMENT

Objectives and Criteria: Assess the adaptability of the master planning program to its effective local management within the scope of available resources and prevailing administrative policies. Determine the potential for increased master plan productivity, in terms of both quantity and quality, and whether this can best be achieved through restructuring of the program or the organization.

The evaluation is conducted on the basis of responses to the master planning survey conducted for this paper and review of applicable literature.

Background: The Navy planning organization is broadly described in Part I. A. Master planning and related services are accomplished by NAVFAC Headquarters and six Engineering Field Divisions (EFD's) which are dispersed geographically to serve beneficiaries on a sectoral basis. Targets for master planning accomplishment are assigned annually to each EFD, with Headquarters assisting where appropriate.

Headquarters and each EFD maintain master planning branches comprising 10 to 22 professional and technical personnel, and administrative support as required. Typically, the master plan branch is organized into

two or three master plan teams and a technical support section. The teams conduct most of the activities associated with master plan preparation, including administration of planning service contracts where plans are prepared by consultants. The technical support section works with; (1) master plan implementation, including performance of facility siting reviews, administration of General Development Maps, and assistance in the conduct of special planning studies of a "current" nature, and (2) master plan production, including provision of graphic, editing, typing and publication support to the master plan teams.

Once an assignment is made to a team, the process generally follows the pattern described in the master planning directives, including program formulation, data collection, field investigation, analysis and concept development, review of alternatives, selection of a preferred concept, and development of recommendations, with supporting data. A pre-planning conference is held at the installation to introduce the actors, review the scope of work and schedule of accomplishment, and agree on planning goals and procedures. Presentations and reviews are then made at appropriate stages of progress; always at completion of the "preliminary" and "pre-final" phases, and usually at several intermediate points as well.

Input to the master planning process is made by both the installation (specific problem areas, special requirements and constraints) and the installation's headquarters office (mission and workload requirements, projected staffing, and broad goals and objectives). Information on facilities requirements, physical plant inventory and Military Construction Program status are provided through the Requirements Planning branches of the NAVFAC EFD's in the form of computer printouts and supporting documentation. Other inputs, such as maps, photographs, functional organizational charts, regional and vicinity data, etc., are available through various sources at the EFD's and the installations.

Field investigation is normally very extensive, requiring familiarization with both the installation physical plant and its operation, and the installation's setting within the local environment. Input data must be verified and adjusted to provide utility of purpose, organizational and functional inter-relationships must be noted, and relevant social, economic, political and environmental factors must be considered in their relationship to the master plan objectives.

Planning analysis and concept development are, of course, the "creative" aspects of the process, in which goals, objectives, requirements and potentials are weighed against criteria, standards, capabilities and other constraints, and a set of physical development

alternatives is derived. This phase is then presented for review and comment to the installation and its chain-of-command, and other interested parties as appropriate.

Following receipt of comments and selection of a preferred development concept, the plan is essentially completed and given another round of review. Upon receipt of all comments the plan is completed, published and submitted for approval by the Chief of Naval Operations. The end-item format and contents are as described in Part II. B., "Program Directives".

The foregoing outlines the basic master planning model as prescribed in the directives. It is, in theory, a clean cut, straightforward process which appears to be efficient, purposeful and effective. In practice, this has not always been the case. Previous sections of this paper have addressed the purpose and effectiveness of the program; this section considers its efficiency.

Discussion: The master planning survey questionnaire was sent to NAVFAC Headquarters and each of the EFD's. Responses were received from Headquarters and all but one EFD, and the sections on "program management" are summarized as follows:

1. "Fixed" teams are preferred over "flexible" teams for master planning purposes, and assignments are normally made by geographic location of the project, depending on team background and orientation.

2. The "optimum" team size for a "typical" master plan assignment is considered to be four personnel, with the team leader devoting most of his time to organizing, scheduling, coordinating, etc.

3. Shore Facilities Planning and Programming System data (computer printouts regarding facilities requirements, physical plant inventory, etc.) are used extensively in master plan preparation, but are only marginally useful as they are often outdated and/or incomplete for master planning purposes.

4. Approximately 50 percent of the master planning branch workload is devoted to master plans, regional complex plans and other targeted planning studies. The balance is devoted to non-targeted special studies, general administration and technical support functions. About one-third of the master planning branch workload is devoted to "in-house" preparation of master plans and regional complex plans.

5. Non-targeted workload items, such as special planning studies, are generated by, in descending order of frequency;

   a. District Commandants

   b. Fleet commands

   c. Local (EFD) command

   d. Field activities (installations)

   e. NAVFAC Headquarters

   f. Other commands and agencies.

6. The specific nature of non-targeted workload is described as, in descending order of impact;

   a. Special planning studies

   b. Briefings and presentations

   c. Coordination and liaison

   d. Meetings and conferences

   e. Point papers and progress reports

7. Productivity, in terms of master plan output, measured against both absolute capabilities and established targets, is considered only "fair" ("2.4" rating on a "1" to "5" basis); producitivity, in terms of master plan quality, is considered "good" ("1.3" rating). If a choice must be made between quantity and

quality in master planning, quality must take precedence, but both are considered essential to the program's viability.

8. Where significant changes to the master plans are required prior to their final submittal, the reasons most frequently given are, in descending order;

   a. Changes in installation mission, workload, staffing, etc.,

   b. Other changes at the installation level, such as rotation of personnel, new policies or requirements, etc.,

   c. Inadequate compilation or analysis of planning data.

9. In general, master plans prepared by planning service contract have been of lower quality than those prepared "in-house". The preference is overwhelmingly in favor of "in-house" accomplishment because this method affords more direct access to Navy planning data, more direct inter-personal contact, and more flexibility for absorption of delays, program changes, etc.

10. The major obstacles to high productivity, in terms of master plan output are, in descending order;

    a. Interruptions due to "brush fires" and other priority work of immediate nature,

    b. Extensive periods of presentation and review,

    c. Inadequate personnel and fiscal resources.

The major obstacles, in terms of master plan quality, are;

a. Extensive periods of presentation and review

b. Interruptions due to "brush fires" and other priority work of immediate nature

c. Unforeseen changes in the internal or external environment of the installation

11. Suggestions for improvement of productivity in master plan output and quality are, in descending order,

a. Modify and condense the presentation and review process

b. Isolate master plan teams from distraction and interruption

c. Gain acceptance, at all levels, of the fact that the master plan cannot solve all of the installation's problems, cannot foretell the future, and cannot be extended indefinitely as an uncompleted task

d. Increase master planning branch staffing

e. Obtain more timely and definitive guidance and data input from headquarters and department levels

12. NAVFAC EFD's are able to effectively meet assigned master plan targets, within the scope and configuration of present resources and prevailing management policies, "most of the time". Limitations in this regard are attributed to, (1) manpower shortages and, (2) local management policies.

13. The "optimal" time that should be allotted to a master plan of "typical" complexity, considering all relevant factors, is 9 to 12 months, including a total of about eight to nine weeks for presentations and review periods.

14. Review periods usually exceed eight to nine weeks by a substantial amount. Although this is conceded to be a major obstacle in the master planning process, it is a requirement and it is unlikely that it can be reduced very much. One suggestion is to eliminate all but one ("pre-final") presentation, and to stage informal briefings and reviews at earlier phases as appropriate; another is to concentrate on education of the installation and its chain-of-command to the "facts of life" noted in Item 11. c. above.

15. Diversion of master planning team personnel to other, non-targeted "brush fire" type work is considered a substantial, but not sole, cause of delays in master plan preparation. Although this is conceded to be an inescapable reality which must be accommodated, it could best be alleviated by a change in local management policies.

16. The major problems with effective accomplishment of the master planning program rest mainly at the NAVFAC EFD level, and not at Headquarters. These can best be solved by increasing the planning staff and by reorganizing functions within the planning division.

Conclusions: There has been a continued growth in the scope and diversity of Navy planning service obligations without a commensurate increase in resources, and this has impaired the efficient management of the program. Spreading limited money and manpower over an ever-larger area of responsibility has resulted in a growing backlog of unaccomplished workload, which is both frustrating and counter-productive. The purpose and objectives of the Navy's master planning program, while not clearly defined, are assumed to be reasonable and compelling; therefore, the means to increased output must be found in the application of local administrative policy. It is concluded that:

1. Unreliable data is detrimental to master plan quality, and time spent in augmenting and updating obsolete and incomplete data is a severe limitation to output as well. Experience has shown that the Navy's computerized planning data bank is not sufficiently accurate, complete or current for effective use in the master planning process.

2. Navy master planning staff members spend an inordinate amount of time on non-targeted planning tasks which impair productivity while contributing little or nothing to target accomplishment. This situation can lead to a diminished sense of purpose and consequent loss of overall productivity.

3. Time spent in preparation for and conduct of presentations, briefings and reviews is an excessive portion of the total master planning effort. This not only results in low output, but effects master plan quality, through redundancy and obsolescence, as well. Presentations and reviews are essential to the acceptance and subsequent use of master plans, as well as to provide needed guidance and input; but the time spent in these activities should be substantially condensed.

4. While the consensus of this portion of the master planning survey was one of general satisfaction with the quality of plans produced to date, the findings discussed in the preceding section ("Program Effectiveness") indicate considerable room for improvement. I interpret this to mean that, while master plans have satisfied the stipulated program requirements quite well, they have been less effective in addressing the specific needs and uncertainties of their beneficiaries in the "real world" situation.

5. There is general agreement that master plan output is less than desirable and that more planning resources are the most direct solution. This is probably true, but a major staffing increase is not only doubtful--the reverse is more likely. Both economics and the principles of "Parkinson's Law" drive an understandable tendency to minimize staff, particularly in a public service endeavor. This rationale is shown on Figure 14, which indicates the "cutoff point" for resource allocations beyond which diminishing marginal utility occurs.[37]

6. There is another side to the issue of productivity which concerns performance on an individual, rather than an organizational, basis. The Navy planning process always operates against a backlog of unaccomplished workload. As shown on Figure 15, this backlog can be increased to point, with a commensurate increase in unit productivity or output, which is generated by a sense of urgency. Beyond this "saturation point", however, unit productivity may begin a decline as apathy replaces urgency in individual attitudes. If the backlog of unaccomplished workload continues to grow in relation to measured output, it's conceivable that organizational net output could decrease even with an increase in resources.[38] I cannot quantify my belief, but it seems probable that the Navy's master planning program is experiencing this phenomenon.

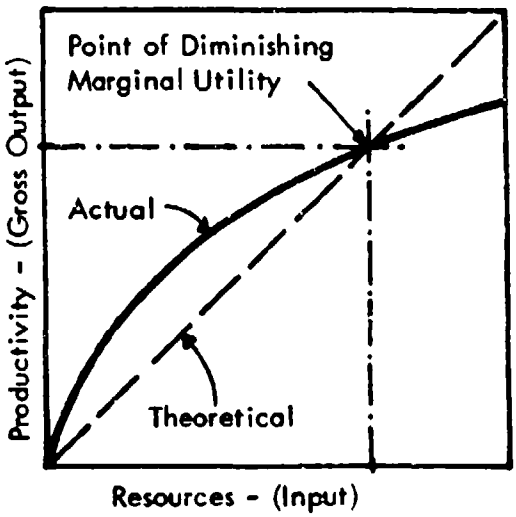

FIGURE 14: ORGANIZATIONAL OUTPUT VERSUS RESOURCES

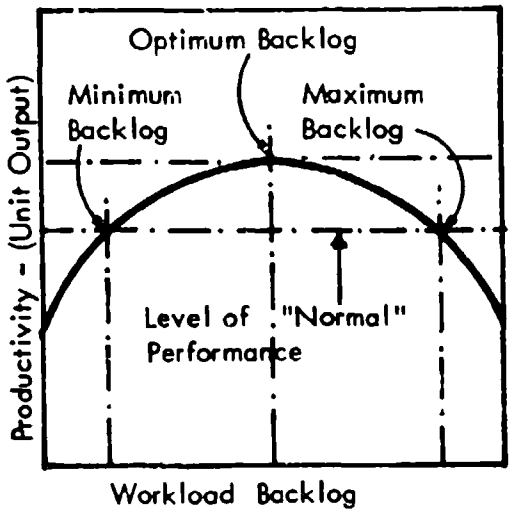

FIGURE 15: INDIVIDUAL OUTPUT VERSUS WORKLOAD

7. If more resources are not to be forthcoming, and a reduced workload is equally improbable, then the Navy must develop a way to produce and maintain useful master plans more quickly. Unfortunately, some of the possible solutions appear to be beyond the planners' grasp, at least for the present. Some of the more plausible solutions are advanced in the final part of this paper.

NOTES: PART II

1 Department of the Navy, Naval Facilities Engineering Command, "Command Management Plan - FY 1976" (Alexandria, Virginia, June 1975), p. i (Command Management Plan)

2 Ibid., p. B-2

3 Ibid., p. B-11

4 Ibid., pp. A-34, A-35

5 Department of the Navy, OPNAV Instruction 11010.1C of 27 April 1960, p. 2

6 Department of the Navy, OPNAV Instruction 11010.1F of 17 January 1972, p. 1

7 Department of the Navy, NAVFAC Instruction 11010.45 of 21 June 1968, pp. 1-2

8 Department of the Navy, NAVFAC Instruction 11010.63 of 18 December 1975, p. 2

9 Department of the Navy, OPNAV Instruction 11010.24 of 23 February 1968, p. 1

10 Wholey, Joseph S. and others, "Federal Evaluation Policy - Analyzing the Effects of Public Programs" (Washington, D.C.: The Urban Institute), p. 15

11 Committee for Economic Development, "Improving Federal Program Performance (New York, N.Y.: CED, 1971), p. 60

12 Commander, Naval Facilities Engineering Command, Arlington, Virginia, letter to Mr. J. G. Cameron, Western Division, Naval Facilities Engineering Command, San Bruno, California, of 2 May 1972, re: DELPHI Study

13 Lovelace, Eldridge, A.S.L.A., "Hindsight or Foresight: How the U.S. Navy Saves Money by Long Range Planning", Landscape Architecture (American Society of Landscape Architects, Louisville, Ky., October 1958), p. 10

14 NAVFACINST 11010.45 and NAVFACINST 11010.63, op.cit.

15 DELPHI Study, op.cit.

16 Ibid.

17 Department of the Navy, Naval Facilities Engineering Command, Alexandria, Virginia, "Analysis of FY 1975 Engineering Field Division Market Survey"

18 Command Management Plan, op.cit., p. A-34

19 Ibid., p. B-11

20 Ibid., p. A-34

21 Ibid., p. B-11

22 Dror, Yehezkel, "Public Policymaking Reexamined" (San Francisco, California: Chandler Publishing Company, 1968), pp. 33-42

23 Commander, Naval Facilities Engineering Command, Alexandria, Virginia, letter of 29 January 1976 to Commanding Officer, Naval Facilities Engineering Command, San Bruno, California

24 Lovelace, Eldridge, op.cit., p. 12

25 Branch Melville C., "Continuous City Planning", American Society of Planning Officials, Planning Advisory Service No. 20, p. 52, quoting Mr. Dean O. Bowman

26 The selected installations with master plans are: Naval Regional Medical Center, Oakland, California; Naval Support Activity, Treasure Island, San Francisco, California; Naval Postgraduate School, Monterey, California; Naval Shipyard, Mare Island, Vallejo, California; and, Naval Air Station, Fallon, Nevada. The selected installations without master plans approved as of 1 July 1975 are: Naval Amphibious Base, Coronado, California; Marine Corps Recruit Depot, San Diego, California; Naval

Ammunition Depot, Hawthorne, Nevada; Marine Corps Air Station, El Toro, Santa Ana, California; and, Naval Air Station Moffett Field, Mountain View, California

27 Branch, Melville C., op.cit., p. 34

28 Dorfman, Robert, (Editor), "Measuring Benefits of Government Investments" (Washington, D.C.: The Brookings Institution, 1965), p. 3-8, and Hatry, Winnie and Fisk, "Practical Program Evaluation for State and Local Government Officials" (Washington, D.C.: The Urban Institute, 1973), pp. 56-62

29 Hatry, Winnie and Fisk, ibid., pp. 45-47

30 Ibid., pp. 41-44, 47-55, 62-66

31 Department of the Navy, "Military Construction Program Objectives", Report 1348 dated 5 November 1975

32 Feiner, Edward, Naval Facilities Engineering Command, Alexandria, Virginia, telephone conversation of January 1976

33 Schlesinger, James D., "Organizational Structures and Planning" (Santa Monica, California: The RAND Corporation, undated), p. 7

34 Hollo, G. C., personal interview at Western Division, Naval Facilities Engineering Command, San Bruno, California, January 1976

35 Kleck, Jr., Lt. Commander William, and Dowling, L. E., "Planning for Shore Facilities", The Navy Civil Engineer (Naval Construction Battallion Center, Port Hueneme, California, September 1960), p. 16

36 Department of the Navy, Naval Facilities Engineering Command, Arlington, Virginia, "Planning Funds Reclama" dated 11 September 1968

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38 Ibid.

PART III. SYNTHESIS AND PROPOSALS

A. Evaluation Summary

B. Conflicts and Trade-Offs

C. Causes and Effects

D. Recommendations

PART III: SYNTHESIS AND PROPOSALS

A. EVALUATION SUMMARY

The evaluation contained in Part II is structured in terms of program goal attainment, master planning procedures and documentation, program output and cost, value and effectiveness, and implications for management. The major findings and conclusions are summarized in the following paragraphs to gain a better perspective for considerations of program improvement.

Program Objectives:

1. Objectives, goals and policies contained in official directives do not provide a sound basis for the type of evaluation attempted:

   a. The objectives are too general and somewhat irrelevant to the master planning program

   b. The goals are set on an annual rather than a long-term basis

   c. The policies are limited to only two aspects of the master planning program.

2. There is no clear statement of master plan purpose in the directives. "Requirements" and "definitions" of master planning do not amount to the same thing, as they fail to explain the need for and potential value of the program. As a result, this evaluation was largely based on assumed purposes, derived empirically from the available literature.

3. There is an apparent conflict in ideology between program participants and beneficiaries regarding master plan concept. Participants (staff and consultants) advocate a long-range, generalized approach which emphasizes basic land use objectives and ultimate development potential; beneficiaries (installations and their chains-of-command) want a shorter range, specialized approach which addresses established requirements, project development and construction phasing by priority of need. The philosophy gap may not be critically large, but the symptoms reinforce the need for visible definition of master plan purpose.

4. The Command policy regarding master plan sensitivity to the natural environment and the socio-economic structure of the civilian community has been acknowledged, but the degree of compliance has been less than possible or desirable.

5. The master planning program has been generally successful in describing a good physical environment for conduct of present and projected activities; it has failed to provide adequately for accommodation of unforeseen changes in policy, priorities or criteria at the departmental level; or in mission, workload or organization at the local (installation) level.

6. The issue of environmental quality is not addressed in program objectives, goals and policies, and is a secondary consideration in the master planning directives. Since the qualitative improvement of the physical environment is a distinguishing characteristic of the master planning program, it should be given more visible presence in the instructions.

Program Directives:

1. The methodology prescribed for master plan preparation in the official directives is not totally relevant to the attainment of program goals and objectives. It is too detailed and extensive, reflecting both a preoccupation with procedure, in lieu of results, and a tendency to meet the challenge for program reform by compounding program requirements. The former is relatively harmless--the latter is deadly.

2. The documentation prescribed for master plans in the official directives is not totally relevant to the attainment of program goals and objectives. It is growing in bulk, as mentioned above, thus enlarging the dilemma of meeting program goals of "timeliness" with supercomprehensive plans.

3. Both the procedures and documentation prescribed are too rigid and inclusive to permit application of needed flexibility in application. A more compact and generalized directive would promote expedience in plan completion without necessary loss of quality.

Program Output:

1. Initial program targets for master plan preparation and updating have not been met. Due to the diversion of resources to non-targeted workload obligations, only two-thirds of the initially targeted plans have been completed within the specified time frame, and only one-half of the required updates have been accomplished.

2. Master plans take too long to prepare. This is due, in part, to the workload conflicts mentioned above, but more directly to the broad scope of planning requirements, to extended periods of presentation and review, and to delays in obtaining needed information and guidance.

3. Increased productivity is essential, not only to meet the program targets, but to improve the response to increasing demands for other planning services. Furthermore, an increase in output may result in improved service quality, as well, since delays breed redundance and obsolescence.

Program Cost:

1. There are no standards or criteria with which to evaluate the cost of the master planning program in relation to output, on either a quantitative or qualitative basis. Since master planning is an ongoing program with multiple objectives, absolute expenditures have little meaning beyond cost-per-unit comparisons.

2. Master plans accomplished "in-house" have cost somewhat more--perhaps as much as 40 percent--than those performed by consultants through planning service contracts. "In-house" plans are considered to be of substantially higher quality than contract plans, however, so the extra expense may well be justified.

3. Negation of the master planning program would not have produced savings equal to its current cost. Likewise, cancellation of the program would not recover any prior expenditures, nor avoid all of the obligations remaining. The program furnishes a variety of ancillary planning services which would have to be separately funded in its absence.

Program Effectiveness:

1. The master plan implementation process has produced some "good news" and some "bad news". The program has been highly effective in defining facilities requirements and in guiding their realization as projects, built or programmed in conformance with approved plan concepts. The program has been rather ineffective in anticipating and directing the total subsequent physical development of installations, since a high percentage of initially proposed projects have been cancelled and a substantial number of "new" projects have been developed in their place. The net result is considered positive, but there is considerable room for improvement.

2. The rate of master plan implementation has been much slower than expected, but 's proceeding as quickly as fund appropriations will allow.

3. The major weaknesses in master planning effectiveness are the inability to (a) maintain conformance with approved plan concepts throughout the implementation process and (b) anticipate and accommodate unforeseen changes which affect the plan's validity.

4. Master plans are different things to different people, thus all questions of value or effectiveness must consider the multiple beneficiaries of the program. It appears that master plans produced to date have satisfied the requirements of the program participants (NAVFAC Headquarters and Engineering Field Divisions) better than those of the beneficiaries (installations and their chains-of-command). This seems to be a perverse situation needful of correction.

5. The master planning program is a vital link to the systematic upgrading of the Naval shore establishment. It can and should be improved, but should not be terminated.

Program Management:

1. A steady increase in planning workload, without a commensurate increase in resources, has impaired the effective management of the master planning program. The additional workload is not in master plans, but in non-targeted planning services of a diverse nature.

2. This situation has resulted in a growing backlog of unaccomplished workload, which is detrimental to personal attitudes and, consequently, to unit productivity, in both quantitative and qualitative terms.

3. Since workload is not likely to diminish, or resources to grow, the challenge to program management is finding a way to produce and maintain good master plans more quickly. The essential program requirements are reasonable and compelling; therefore, the main burden of solution rests at the local department level.

4. The most potentially effective solutions are not within the planner's sphere of attainment, but substantive improvement could be made through functional reorganization and procedural innovation at the local level.

B. CONFLICTS AND TRADE-OFFS

The multiple problems identified in the Navy's master planning program can be reduced to three basic shortcomings: (1) the plans take too long to prepare; (2) when complete, they are too vulnerable to manipulation; and, (3) they cannot adequately predict or accommodate future change. All other considerations are included within or attributable to these three items. According to the master planning survey:

1. Initial delays in plan preparation perpetuate further delays through redundancy and obsolescence. They are the result of:

   a. Extended review periods and excessive presentation requirements, which are both time-consuming and frustrating as they are not always productive;

   b. Diversion of team planners to non-targeted, "brush fire" tasks, resulting from manpower limitations and/or local management policies;

   c. Difficulty in obtaining timely and reliable planning guidance and policy input from headquarters and departmental levels;

   d. Difficulty in obtaining appropriate and current planning data;

   e. A scope of work that tries to do too much--a tendency within NAVFAC which is supported by the installations through insistence on supercomprehensive plans;

2. Completed plans are often disregarded or misused by their beneficiaries. This is the result of:

   a. Lack of management continuity at the installation level due to frequent changes of command and rotation of departmental personnel;

   b. Personal whim based on "second guesses" and founded on the principles of first-cost economy and expedience;

   c. Substitution of "non-appropriated fund" projects for Military Construction projects proposed in the master plan, often resulting in the further retention of obsolete and non-conforming facilities;

   d. Erosion of interest in the value of the plan on the part of the installation or its chain-of-command; and,

   e. Inadequate coordination between all parties in the implementation process; i.e., NAVFAC Headquarters and the Engineering Field Divisions, the installations and their headquarters offices, and Navy Department Headquarters.

3. The "picture of the future" developed by the master planning process is often out of focus. This is the result of unanticipated changes in:

   a. Policies, priorities and organization structure made at headquarters level, reflecting shifts in the national economy, political mood or defense posture;

   b. Facility planning factors and siting criteria, resulting from increased sensitivity to issues of environmental protection, public safety and personnel living standards; and,

   c. Mission, tasks, base loading, workload or functional organization at the installation level.

Suggestions for improvement to the master planning program are abundant. Those most frequently cited in the master planning survey include:

1. Provision of more flexibility in master plan preparation procedures and document format, with less emphasis on environmental impact, area factors, installation description, and architectural character;

2. More articulate guidance from headquarters and departmental levels on planning program, objectives and constraints, and faster response to presentations and review phases;

3. Revised local management policies regarding "brush fires"; i.e., isolation of master plan teams from internal disruption;

4. Better definition of basic master planning goals and objectives in the official program directives;

5. Keener awareness by all participants of the multiple purposes of the master plan;

6. Closer coordination of related actions and obligations at all levels of concern; i.e., maintaining a better understanding of the issues involved and a higher sense of urgency in their resolution;

7. More generous staffing, including provision of a "staff planner" at all major installations;

8. More "in-house" and less contract master plan preparation;

9. More emphasis on development of sound basic concepts and alternatives and more frequent review and updating of plans; and,

10. More frequent and candid interface with the civilian community on matters of mutual concern.

It is obvious that the various problems are somewhat interrelated and that the proposed solutions are not all mutually inclusive. Furthermore, some of the proposed solutions are plainly unrealistic, as they would either violate command policy or require the input of non-existant resources.

There are some real conflicts between program goals and policies on the one hand, and the various planning requirements and constraints which have been identified, on the other. There is the potential for trade-offs, however, and appropriate areas of compromise can be identified, if not resolved. The list below has been compiled through the insight of the foregoing research with Command goals designated as (G) and Command policies designated as (P). All other factors are termed either "requirements" (R) or "constraints" (C), depending on their basic characteristic.

TIMELY OUTPUT (P) . . . . . VS . . .COMPREHENSIVENESS (R)

IN-HOUSE PREPARATION (P) . . . . VS . . .CONTRACT PREPARATION (C)

TARGETED MASTER PLANS (G) . . . VS . . .PLANNING SERVICES (R)

PRIORITY REQUIREMENTS (R) . . . . VS . . .FUNDING AVAILABILITY (C)

INITIAL PREPARATION (R) . . . . . VS . . .PERIODIC UPDATING (G)

DEFENSE REQUIREMENTS (R) . . . . VS . . .EXTERNAL CONCERNS (P)

PROGRAM QUALITY (R) . . . . . VS . . .PROGRAM COST (C)

LONG-RANGE POTENTIAL (R) . . . VS . . .SHORT-RANGE NEEDS (R)

GENERAL APPROACH (R/C) . . . . VS . . .SPECIFIC NEEDS (C/R)

UNIFORMITY (C/R) . . . . . VS . . .FLEXIBILITY (R/C)

PARTICIPANT NEEDS (R) . . . . . VS . . .BENEFICIARY NEEDS (R)

These sets are not mutually exclusive; there are numerous overlaps and cross-relationships. They can be synthesized, however, into two basic dichotomies: "innovation" (what is needed) versus "conformity" (what is required), and "workload" (what is required) versus "resources" (what is available). This study will not attempt to suggest the precise areas of trade-off, but will, instead, consider ways in which the conflicts can be minimized.

C. CAUSES AND EFFECTS

The objective of this paper is to review the Navy's master planning program in depth and to identify its major strengths and weaknesses. The findings of the research are believed to be conclusive in most areas and at least informative in the remainder. The program has been assessed in terms of both concept and procedure, and the findings of the master planning survey indicate a stronger consensus on the latter issue. This is to say, while there is general agreement on the issue of planning process, the succinct program purpose has neither been clearly identified, nor agreed upon by the interest groups involved.

Shall the master planning program focus on long-range objectives; general concepts for ultimate development of the shore establishment to support the Navy of the future? Should it focus on shorter range objectives; specific plans and programs to satisfy known requirements and immediate concerns? Or should it attempt to do both; to be both general and specific, according to need and prevailing circumstances?

Obviously, the last option, "comprehensiveness", is the most compelling as it would resolve disputes over concept and purpose while addressing the total facilities planning needs of the Navy. It is also the most idealistic, presenting both a picture of the future and a formula for the present.

The current master planning directive appears to be committed to the "comprehensive" approach. While the objective is commendable, the content of the directive fails to offer a solution to the three fundamental shortcomings of the program; that master plans take too long to prepare, are too vulnerable to misuse after completion, and do not adequately forecast or accommodate future change. The problem causes given in the master planning survey seem to properly account for the shortcomings noted. On closer examination, however, it appears that these "causes" are actually residual effects which are underlain by more fundamental causes. There seem to be two forces at work, which are deeply imbedded in Navy master planning philosophy and which tend to oppose any scheme for program reform.

The first is the orientation of the Navy planning system, and indeed of many planning agencies, toward a rigid methodology based on achievement of a final and static objective. This is the "end-state" planning criticized by Branch and others as being unresponsive and ineffective to the needs of a dynamic and pluralistic society.[1] While the Navy is not a pluralistic society per se, it does contain a wealth of special interest groups; while it is not clearly a dynamic institution in terms of political innovation, it must continually react to external stimuli impelled by changing national interests.

James R. Schlesinger distinguishes between two general approaches to planning, referred to as "Cook's tour" planning and "Lewis-and-Clark" planning:

> "Cook's tour planning rests, implicitly or explicitly, on the supposition that the future is sufficiently certain that we can chart a straight course years in advance. In it, direction, speed, size of committment and achievement milestones (not decision points) are indicated with, at least, rough precision. By contrast, what may be termed Lewis-and-Clark planning acknowledges that many alternative courses of action and forks in the road will appear, but their precise character and timing cannot be anticipated. Neither the size of committment nor even the direction of movement should be stipulated too far in advance. At the end of a period one can retrospectively examine the paths pursued, which include many abandoned initiatives or experiments and many hard (and maybe erroneous) choices. Only limited confidence could have been placed in advanced predictions regarding which options would be chosen, when the choices would be made, or how long alternative courses of action would be pursued before abandonement. Retrospectively one may map what has taken place, but the planning function is not to chart a precise course of action. Rather it is to prepare to cope with the uncertain terrain of the future, to note the signs in the environment that a decision point has been reached, and to respond in a timely fashion."

He continues; emphasizing the need for flexibility:

> "Wherever uncertainties are substantial, the balance should shift in the direction of Lewis-and-Clark planning...Nevertheless, in all bureaucracies there are strong pressures to go too far in the quest for Cook's tour planning. In part, this is inevitable in large organizations as a concommitant to the need for cohesion and the cost of communications. In part, the pressure is understandable since it may permit committing others to our view of the world, our

objectives, and our strategies. In part, it is a form of casual laziness. Characteristicially the tendency toward precise planning goes much too far...the less well known the futur. terrain, the greater the losses in planning by simple Cook's tour methods."[2]

Schlesinger offers some further insights into planning philosophy which are appropriate to this discussion:

"...as one adds to the dimensions of the plan by increasing the number of issues covered, planning ceases to bear any relation to a prescription of activities that will be undertaken in the future. Instead planning appropriately becomes a vast hedge, indicating the character, the means of acquisition, and the use of certain instrumentalities--of certain sets of circumstances should materialize. Rather than providing an exact prescription of activities, a good plan will admittedly provide no more than the roughest guidelines...If plans for future activities are adhered to, the results will inevitably be less than optimal. We are not clarivoyant. Prescription of future activities requires us to have more knowledge of the future than we possibly can...a good plan should be viewed as a complicated structure to foster intelligent hedging. It ought not be viewed as a prescription for future activities."

He notes the weaknesses of prescriptive planning and offers an alternative:

"If planning is in the nature of prescription, it is bound to be costly--and will probably be inaccurate as well. For planning variegated activities under conditions of uncertainty, indicative planning--because it lacks precision and rigidity--is the appropriate means for attaining the best result possible, though not the best possible result. In this case, as in others, the hypothetical best can be an enemy of the attainable good."[3]

Schlesinger is speaking of centralized operational planning in the Department of Defense, but his rationale can be extended, with little qualification, to facilities master planning in the Navy. While "Cook's tour" planning would appear to have an excellent chance for success in the Navy's planning system, which is highly rational and controlled, it's application to the master planning program has not fully succeeded, as shown by the evidence on hand. Schlesinger's article establishes an attractive case for planning as a dynamic process to guide enlightened decision making; a view shared by at least some Navy planners.[4]

The implication of this discussion is that the Navy's master planning program is, indeed, too highly structured and prescriptive to permit effective physical development of the shore establishment on a necessarily incremental basis. It's not that the scope of concern is too broad, nor the aggregate requirements too extensive; it is, rather, that they are applied unilaterally and are required to be addressed at a single point in time. This approach inhibits flexibility in planning for individual requirements and necessitates making hundreds of decisions in advance of symptomatic phenomena. It results in extended periods of plan preparation and assures the need for early and recurring plan updating.

The second cause underlying the program's shortcomings is a psychological alienation of the master plan beneficiaries from the mainstream of

activity. The installations and their superiors-in-command apparently don't feel that they are a vital part of the process; they seem to feel, rather, that master planning is "NAVFAC's game", which must be tolerated but not necessarily endorsed.

This attitude understandably stems, in part, from apprehension over the past record and it's legacy of unfulfilled promises. A stronger factor, however, is that the beneficiaries are placed in an essentially passive role throughout the master planning process. All substantive action is taken by the "participants" (planning staff or consultants), and the final plan document is presented to the installation as a "gift".

It's true that the beneficiaries are consulted frequently throughout the planning process and make inputs at various stages of the program development. In addition, they are obligated to endorse the final plan prior to its submittal for approval by the Chief of Naval Operations. While it cannot be claimed that their needs or desires have been neglected, it follows that their contributions have been first induced and then translated into "staff recommendations". At each point of contact, the installation is presented with a completed accomplishment and asked to respond. While the command staff may approve what they see, they have not been privy to the hundreds of cumulative decisions that must go into such

an accomplishment. It is little wonder, then, that they look upon the document as "NAVFAC's plan" and receive it with less than total enthusiasm.

This is not to imply that participant-beneficiary relationships are always adverse or artificial--they are not--but it seems a fact that Navy planners tend toward an attitude of possessiveness regarding the master plan, and of acquiescence regarding the installation and its superiors-in-command. This attitude inevitably results in degradation of commitment on the part of the beneficiaries. (Note the distinction used in this paper between "participants" and "beneficiaries"; indicative of the separate roles maintained.) It seems reasonable to expect that, as "participants" in the master planning process, the installation and its superiors-in-command would view their role in a different light and respond in a more constructive manner.

The alienation described here is not limited to the planners, the installations and their superiors-in-command. It permeates the entire structure of the Naval establishment and is reflected in the frequent inadequacy of fundamental guidance furnished by headquarters and departmental levels at the outset of the planning process. While the planner has a special need for the best information available, experience has shown a strong reluctance within the higher eschelons of Navy

management to accommodate this need. Whether this reticence is intentional, stemming from mistrust of the motives or consequences of "enlightened" planning, or simply an innocent failure to recognize the critical relationships involved, is not known. It seem probable, however, that the instilling of a higher sense of departmental involvement in the planning process would stimulate better response to program needs.

This "response gap" can be likened to the procedural conflicts noted by Altshuler and others in the civilian planning sector, resulting from the political isolation of the planning process.[5] It would seem that Navy planners could learn a good deal from the experience of the civilian sector, and find ways to better integrate the roles of "participants" and "beneficiaries" in the master planning program.

D. RECOMMENDATIONS

The findings and conclusions of this research have led to the formulation of three major proposals for improvement of the Navy's master planning program. They are to,(1) realign the planning procedures to a more "process-oriented" approach, (2) realign the planning concept to a more "policy-oriented" approach, and (3) expand the planning data base to include all information necessary for effective master plan accomplishment. Each of these proposals can stand alone and each could provide explicit benefits for the program. Taken together, however, they can minimize the various obstacles confronting effective program execution under the present structure and enhance current efforts in the fields of regional complex and logistics systems planning.

1. Process Planning Approach. This proposal is to move the Navy's master planning procedures closer to those of the "indicative" planning described by Schlesinger and the "continuous" planning advocated by Branch.[6] The proposal is motivated by the recognized need for:

   a. Higher master plan productivity, in the aspects of both initial preparation and periodic updating;

   b. Faster response to the growing demand for ancillary planning services;

c. Accommodation of an increasing number of supplemental master plan requirements; and,

d. Higher credibility and usefulness in the master plans produced.

The approach suggested is not radically different from established concepts or procedures. The essence and primary departures are a deeper involvement of the "beneficiaries" in the master planning process and accomplishment of plan elements on an incremental basis, according to established priorities. Thus, the most essential tasks are performed first and, upon reaching a point of significant accomplishment where substantive decisions can be made, the process is temporarily suspended. The planning team moves on to another task while the initial effort is undergoing implementation and evaluation.

The initial plan document would be more compact and generalized than those of the present, thus could accept marginal changes in installation size and structure without degradation of basic concepts.

The plan would be augmented in scope and content from time to time, according to knowledge gained and prevailing needs; thus, the plan would become more comprehensive over

time and updating would be a continuing process. Changes in requirements, policies and criteria, and their impact on the plan, would be acknowledged and assessed immediately and necessary revisions would be made at the earliest opportunity. Elements of the plan containing information subject to frequent revision (base loading and workload data, inventory of existing assets, Military Construction Program status, etc.) would be updated regularly and replaced in the plan document.

The primary elements of the "process plan" are a policy section which is discussed in the following paragraphs, and a proposed land use plan similar to that employed in the current process. The land use plan would depict long-range land use concepts based on specific policies and goals of the installation and its superiors-in-command. It would depict, in general terms, the basic land use categories and circulation pattern needed to accommodate current and firmly anticipated requirements, allowing for, (a) incremental facilities reorganization to achieve better functional and environmental capability, (b) the likely expansion of certain facilities types commensurate with an increase in present mission or workload, and (c) the potential for accommodation of additional functions of a compatible

nature. Secondary elements of the plan would include background information on the installation and its physical environment, relevant socio-economic factors, capital improvement plan, and any other items of special interest, mandatory or optional, which relate to the installation's physical development profile and which may require periodic revision.

2. Policy Planning Approach: This proposal is to move the Navy's master planning concept closer to that of the "policy plan" described by Fagin and others.[7] The proposal is based on the recognition that the most efficient planning procedures cannot foster rational and compelling decisions if not supported by a sound policy structure. Rondinelli advocates policy planning as an action-oriented approach to the management of change, but cites eight propositions that characterize and limit the effectiveness of policymaking.[8] Review of these has indicated that they can be more easily managed within the Naval establishment, however, than in the "highly fragmented, multi-nucleated structure" of urban society.[9]

Planning based on well articulated policies at all levels of Navy management would offer many advantages to the master planning program. The process should start with a clear statement of program objectives, goals and policies at Navy Headquarters level. These would define the multi-purpose nature of master planning and describe its potential benefits to the Navy and Department of Defense, in general, and to the respective installations and their superiors-in-command, in particular.

This approach would tend to stimulate a more responsible commitment from headquarters and departmental levels, in terms of major planning goals and guidance; and from the installation level, in terms of personal involvement and continuity. Furthermore, it would crystallize requirements and expectations that otherwise may be only implicit, or even unrecognized.

Policies formulated jointly by the installation, its chain-of-command and the NAVFAC planning staff, would lend credibility to the plan and would provide long-range goals upon which to base incremental decision making and problem solving. This process would, in short, transform master plan "beneficiaries"

into "participants" and, more likely than now, good ideas into realities. At the regional complex level, planning goals and policies would logically be formulated by the area Naval Base Commander or District Commandant.

Inclusion of the civilian community in the policymaking process would tend to reduce friction between the military and civilian sectors and promote better understanding of both separate and mutual concerns. Appropriate representatives of the community should be involved in the earliest stages of policy formulation at the local level. While they need not be considered "participants" in the process, their presence could avert possible conflicts and would facilitate follow-up requests for information and assistance.

3. Expanded Data Base: This proposal is to enhance the effectiveness of the planning process through expansion of the role of information. It is generally agreed that accurate and adequate information is essential, not only to aid routine decision-making, but to provide a basis for more accurate forecasting of future requirements.

A five-year workload projection, which is now the basis for Navy facilities programming, is totally inadequate for physical development planning. Rear Admiral D. G. Iselin, Vice Commander of NAVFAC, has stated:

> "Re-examination of the logic in our shore facilities planning and programming system has convinced me that we must re-establish the procedure for definition and projection of shore activity workload... A total system discipline must be maintained to prevent a return to pre-LSR days when arbitrary policies were used to determine which projects would be funded. The LSR System is the only current means of identifying and controlling shore activity interdependency."[10]

As noted in Part I. B. herein, the Logistics Support Requirements (LSR) System has been recently suspended due to problems in its management.

Another Naval officer, Rear Admiral R. E. Jortberg, of the office of the Chief of Naval Operations, has expressed concern that (we) are unable to predict what is likely to happen in the communities surrounding Naval installations, and that measures for defining and improving (our) relationships be instituted.[11]

NAVFAC's bank of computerized planning data is now limited to facilities requirements and deficits, physical plant inventory and Military Construction Program data compiled on an individual activity basis. Furthermore, the format of this data is structured for quantitative review of Military Construction Program submittals; consequently, it is of little use in resolving the multiple and complex issues which face the master planning staff on a routine basis.

The recent establishment of concepts for broad-based planning of Naval regional complexes (such as at San Diego, California or Norfolk, Virginia) and of logistics support systems (such as ordnance, ship berthing, aircraft rework, etc.) places a tremendous burden of data requirements on the system. For these purposes, information on personnel and on the capacities, capabilities, inventories and physical condition of various facilities types must be assembled for broad geographic areas and programmed for retrieval in various formats. Much of this data is now available in the offices of the Bureau of Naval Personnel, Bureau of Medicine and Surgery, Navy Finance Center, and Naval Materiel Command, among others.

It is often inaccessible to Navy planners though and, when available, structured in an inappropriate format.

These factors suggest that information for planning needs to be not only more timely, but much more accessible and comprehensive, as well. Three actions appear necessary to expand the Navy's data base for effective conduct of the master planning program:

a. The Logistics Support Requirements System should be reactivated and expanded to include more definitive "census type" information on military personnel and their dependents;

b. The system should be "regionalized" to provide facilities, personnel and functional workload data for Naval complexes, Naval districts, and other geographic or operational areas as appropriate to the needs of current planning studies; and,

c. Navy data sources external to NAVFAC should be identified and made accessible to Navy planners on a reciprocal basis.

4. The Integrated Approach: The combined application of the three proposals described above is termed the "integrated planning approach". The essence of the "integrated approach" is teamwork; responsible cooperation between all the actors in the planning process, and particularly between the NAVFAC planning staff and the installations. All physical development

decisions are made in the light of well-articulated goals and policies, and on the basis of a well-stocked bank of current planning data.

A key element in this pursuit is the provision of a permanent staff planner at each major installation. Many installations now have such a "planner"; but, typically, planning is not their primary function as they are burdened with multiple obligations of more "immediate" concern. A staff planner with a primary obligation to the installation master plan is essential to the success of this approach. This need has been recognized within the planning organization, but scarcity of funds has apparently precluded its realization.[12] Provision of a professional civilian staff planner at each Naval and Marine Corps installation requiring a master plan (140 - more or less) would cost the Navy a maximum of $3,000,000 additional, annually; probably, much less. It is doubtful that there is a better place in the master planning program to commit such an expenditure.

Let us view the "integrated planning approach" as an analog model and "put it to work". The form-giving action is a redefinition of master planning objectives, goals, policies and requirements. The following statement of purpose is suggested

as appropriate to the thrust of the "integrated planning approach":

> Master planning of Naval and Marine Corps shore installations, regional complexes and logistics support systems is accomplished by Naval Facilities Engineering Command as directed by the Chief of Naval Operations. The purpose of the master planning program is to assure the economical, orderly and attractive physical development of facilities within the aggregate Naval and Marine Corps physical plant to enhance operational efficiency, personnel welfare and compatibility with the external civilian community and physical environment.
>
> Master plans are multi-purpose instruments to aid decision-making on current and future physical development and on facilities management at all levels of the Department of the Navy and the Department of Defense. As such, they provide a wide range of benefits to each of the various users, ranging from assistance in day-to-day plant management and interaction with the civilian community at the installation level, through construction project siting review and general planning administration at the engineering field division level, to area coordination and public relations at the Naval base or district level and, finally, to Military Construction Programming and operational policymaking at the headquarters and departmental levels. Because of the diversity of their multiple obligations, and the dynamic nature of Naval operations, master plans must necessarily be both broad in scope and general in content. They are not intended to serve as detailed prescriptions for future physical development, but as generic guides to incremental facilities development in accordance with sound and substantive goals and policies formulated at each level of responsibility.

Following the statement of purpose should be a more explicit set of master planning requirements. The following are suggested as relevant to the nature of the "integrated planning approach":

> Master plans and, where applicable, regional complex and logistics support systems plans, shall be based on and reflect in their content:
>
> a. Basic planning objectives, goals and policies of the Department of Defense and the Department of the Navy, and other federal agencies as designated;
>
> b. Specific development objectives, goals and policies of the installation, Naval base or Naval district as appropriate, and as approved by the Department of the Navy;
>
> c. Information contained in the documents of the Naval Shore Facilities Planning and Programming System and the Naval Logistic Support Requirements System;
>
> d. Intimate knowledge of the installation (or complex, district, system, etc.) mission, tasks, administrative organization, functional workload, physical plant and surrounding social and physical environment; and,
>
> e. Consideration for expansion and augmentation of the present mission and/or workload to realize the ultimate resource capabilities.

The "integrated planning" process begins with the assignment for accomplishment of a master plan. Advance scheduling should be made to permit, (a) notification of headquarters and departmental

levels and request for explicit policies and planning guidance and (b) notification of the installation and request for assembly of available planning data, including updating where required. (The latter is the responsibility of the installation staff planner, who functions as a member of the planning team.)

The first phase of planning is a general orientation of the planning team given by the staff planner, including inspection of the installation physical plant, and discussions with key departmental personnel on functions and resources.

The second, and crucial phase, is the formulation of physical development goals and policies for master planning. This is accomplished by the commanding officer and his staff, assisted by the chain-of-command representatives and the planning team. Appropriate representatives of the civilian community should also be involved in this process, to the extent permitted by security measures. The result of this phase is a set of explicit development goals and policies, along with a scope of work and program of accomplishment, which are forwarded for approval.

The third phase is planning analysis and concept development. This is accomplished by the planning team, predominantly within their office, but there is continual exchange of ideas and information between the planning team and the staff planner. All issues are discussed before decisions are made, and the commanding officer is kept constantly abreust of the plan's progress. Because of this interaction, presentation and review of the plan at the local level is normally not necessary, but may be required as a formality or to brief installation staff and community representatives on the proposed development.

The basic elements of the plan at this stage of completion would be: a background section, prepared by the staff planner and containing description of the installation and its environment; a policy section, containing the development goals and policies, and the scope of work and program for accomplishment; an analysis section, stating basic planning assumptions, describing the problems to be solved, and outlining the approach used in their solution; and, a proposals section, containing the proposed land use plan and the rationale for its development. Siting of specific facilities would be limited to currently programmed projects and significant "new" facilities proposals resulting from the master planning process.

The plan is then forwarded for headquarters and departmental level review and approval, and the planning team moves to its next assignment. It is stressed that environmental impact and energy conservation issues would be given special attention in the policy section of the master plan. This, together with the recognition that the generalized land use plan cannot offer conclusive evidence of significant environmental impacts or potential energy savings, minimizes the requirement for a supplemental environmental impact assessment and energy conservation plan. A capital improvements plan can and should be developed, however, and this would be accomplished by the staff planner, commensurate with updating of the installation's General Development Map and other basic planning documents which require annual revision.

After approval of the plan, the installation staff planner would then be responsible for its implementation. This would include preparation and submittal of construction projects at sites conforming to the approved land use plan and its formative goals and policies. The staff planner would be responsible for keeping all planning data current, notifying the planning team of any policy changes and orienting new commanding officers

and installation staff to the plan, thus maintaining continuity and commitment to its goal.

As stated earlier, this planning concept and process is not a radical departure from the current program structure--many of the elements are identical. The significant differences are in the extent of detail considered, the assignment of planning responsibilities, the order of accomplishment, and the concept of the master plan as an instrument of Navy policy. The implied result of these differences, however, is considered substantial. The "integrated planning approach" appears to have excellent potential for speeding the production rate of master plans, bolstering their immunity from misuse, and increasing their credibility and usefulness. Also, it would tend to minimize the impacts of unexpected change which erode the value of prescriptive planning approaches and thus, the confidence that can be placed in the overall program. Moreover, the foregoing proposals appear to be highly applicable to broader based planning concepts in which the consequences of misdirection are even more severe.

5. A final recommendation is that the Navy undertake a program of systematic master plan evaluation. Some of the requisites are discussed in Part II. E. of this paper, and specific guidelines could be formulated without great effort. The articulate criteria developed through the policy structure of the "integrated planning approach" would be expressly valuable in this endeavor. The effect of such a program would be a more accurate measure of the value and effectiveness of Navy master planning than has been provided in this paper, which could then substantiate or reject the findings and conclusions advanced.

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APPENDIX B

COMPOSITE MASTER PLANNING SURVEY QUESTIONNAIRE

The following survey questionnaire is a composite of the three questionnaires sent to each of three master planning interest groups: (1) NAVFAC Headquarters (HQ) and six Engineering Field Divisions (EFD's); (2) twelve selected Naval installations for which master plans have been prepared; and, (3) six architect-engineer (A&E) firms which have prepared master plans for the Navy through planning service contracts.

Since not all questions pertained to all three interest groups, each question is designated as to its applicability and variations in question structure are noted.

The responses shown are also designated by group, with NAVFAC HQ and EFD's placed within the answer block, installations placed to the left, and A&E's placed to the right. The numerical answers represent the average, or mean value, of responses given by each of the three

groups, thus accounting for fractional values. Narrative responses are designated by source; i.e., "HQ/EFD's" (NAVFAC), "INST'S" (installations), and "A&E's". Number shown in parentheses are the actual number of nominal responses to a given question and do not represent an ordinal rating or mean interval value.

DEPARTMENT OF THE NAVY
WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 727
SAN BRUNO, CALIFORNIA 94066

IN REPLY REFER TO
2021C:RWF:so
Ser P2-895
14 NOV 1975

From: Commanding Officer, Western Division, Naval Facilities Engineering Command
To: Distribution List

Subj: Evaluation of the Navy Master Planning Program

Encl: (1) Survey Questionnaire for Evaluation of the Navy Master Plan Program

1. This Command is sponsoring a program of graduate study in Urban and Regional Planning for Mr. Robert Forsyth, a senior member of our Facilities Planning staff. The study is being accomplished at San Jose State University, where Mr. Forsyth is on leave of absence until his graduation in June 1976.

2. Mr. Forsyth has elected to conduct an evaluation of the Navy's Master Planning Program as the topic for his thesis dissertation; a choice which is fully supported by this Command. To provide a more complete factual background for analysis of the Program's overall value and effectiveness, Mr. Forsyth has prepared a survey questionnaire for completion by the Manager and senior staff members of your Master Planning Branch. The questionnaire, furnished as enclosure (1), solicits a comprehensive response to questions regarding the organization, operation and workload of your Branch, and an evaluation of the Program on the basis of goal attainment, planning methodology, plan format and contents, plan implementation, productivity of planning output (quantity and quality), internal management of the Program, external impacts on planning, and alternatives to the Program structure.

3. It is requested that the questionnaire be completed and returned to Mr. Forsyth at his residence, 43 Pine Avenue, San Carlos, CA 94070, by 1 December 1975.

4. While individual attitudes on the content are desirable, it is suggested that the responses reflect, where possible, a consensus among staff personnel. Although the questionnaire has been directed to the Engineering Field Divisions, a response from Naval Facilities Engineering Command Headquarters would be welcomed.

2021C:RWF:so
Ser P2-895
14 NOV 1975

5. Your cooperation in this effort will be greatly appreciated, both by Mr. Forsyth and this Command. Your office will receive a copy of the final study following its completion next June.

Wm. H. G. Van Ness

WM. H. G. VAN NESS
By direction

Distribution:
NAVFACENGCOM (202)
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SURVEY QUESTIONNAIRE

EVALUATION OF THE NAVY MASTER PLANNING PROGRAM

A. INTRODUCTION: This survey questionnaire is submitted in connection with an evaluation of the Navy's Master Planning Program. The evaluation is being conducted as a research project for graduate study in Urban and Regional Planning at San Jose State University. The study will take a comprehensive look at the overall quality and effectiveness of the Program as it has evolved, and appraise its merits on the basis of observed results.

Installations having a history of experience with approved Master Plans are encouraged to participate in this effort, with particular emphasis on their opinion of the effectiveness of the Plan in guiding the orderly and efficient development of the installation physical plant. Your cooperation in completing this questionnaire, as it applies to your installation, will be greatly appreciated.

B. BACKGROUND:

1. Installation Title: (Eight, west coast Naval installations)

(See listing in Notes - Part I - no.65)

2. Date Master Plan started: April 1966 (earliest)

3. Date Master Plan approved: March 1974 (latest)

4. Have their been any significant changes in the mission, tasks, workload or base loading at your installation since completion of the Master Plan? If so, describe:

(Three installations noted changes in mission or tasks)

(Two installations noted a workload increase, two, a decrease)

(Two installations noted a base loading decrease)

5. Have their been any significant changes in the surrounding community, (physical/environmental/political/etc.), since completion of the Master Plan, which would require its revision or updating? If so, describe:

(Six instances of environmental, physical and political changes, causing impacts on the master plan, were noted)

SURVEY QUESTIONNAIRE

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Architect-Engineering firms having a history of professional experience in contract preparation of Master Plans for Naval and Marine Corps installations are encouraged to participate in this effort, with particular emphasis on the quality of the plans produced and the procedures used in their development. Your cooperation in completing this questionnaire, as it applies to your previous association with the Navy's Master Planning Program, will be greatly appreciated.

B. BACKGROUND:

1. Firm Title: (Three, California firms - names witheld)

2. Title of Master Plan Contract: Naval Electronic Laboratory Center, San Diego, Ca.; Naval Regional Medical Center, San Diego, Ca.; Naval Amphibious Base, Coronado, California.

3. Date of contract award: June 1970; June 1971; June 1972

4. Date of contract termination; July 1971; May 1973; December 1975

5. Were you thoroughly familiarized with all relevant Navy planning directives and criteria at the outset of the project? YES (0) SOMEWHAT (3) NO (0) .

6. Were you given available background and statistical data on the installation at the outset of the project? YES (3) NO (0) .

7. If the answer to the above question is "yes", of what relative value was this material in preparation of the Master Plan? HIGH(0) MODERATE(2) LOW (1).

8. If the answer to the above question is other than "high", please explain the limitations below.

The data was largely outdated and incomplete.

SURVEY QUESTIONNAIRE

EVALUATION OF THE NAVY MASTER PLANNING PROGRAM

A. ORGANIZATION and OPERATION: (HQ & EFD's only)

1. Number of professional/technical personnel in your master planning branch?..... 14.0

2. Professional/technical backgrounds of personnel. (number of personnel in each category shown).

Architecture	4.7	Landscape Architecture	2.5
Engineering	4.3	Urban Planning	1.0
Other (identify).....(Social Sciences).....			1.5

3. Organizational concept for master planning - (check)

Fixed teams - makeup remains constant	4.5
Flexible teams - makeup tailored to job	1.5

a. If "fixed team" concept, how are team responsibilities assigned? (check)

Geographic location of installation	2.5
Mission characteristics of installation	1.0
Major claimant or sponsor command	0
Other (identify) (Nature of Assignment)	2.5

4. Given a "typical" master planning assignment for in-house accomplishment, what do you consider as the OPTIMUM team size, in number of personnel? 3.7

Why? Team leader organizes, schedules and coordinates - Less than three team planners lowers productivity - More than three are difficult to manage effectively.

5. Organizational structure. Enclose your organizational chart, or explain the branch makeup, noting specific functions of each section. (Typical organization is two master planning teams and one technical support section, for facility siting reviews, GDM administration and conduct of special studies of "current" nature).

6. Indicate how, (by whom), each of the following functions are accomplished, for in-house preparation.

Graphic Illustration (Team planners)

Narrative writing (Team leader and planners)

Photography (Team planners)

Assembly for publication (Team planners)

Master plan EIA's (Team leader and planners)

Architectural concept (Team leader and planners)

Site review/approval (Technical support section)

GDM administration (Technical support section)

(consider above items only as they relate to specific master plans under preparation).

7. Use of SFPPS data. Rate the following questions on a "1" to "5" basis, with "1" being the highest rating, "5" the lowest. (SFPPS data = OPNAV form series, etc.)

a. To what extent has this data been used in master plan preparation? 1.1

b. How satisfactory has it been for this purpose, in terms of reliability?..... 2.7

B. WORKLOAD DATA: (HQ & EFD's only)

1. Total number of master plans and regional complex plans assigned within your geographic area?..... 20.2

2. Number of master plans and regional complex plans completed or underway, since June 1968?..... 18.0

3. Number of master plans and regional complex plans updated or under update action, since June 1968?. 5.5

4. Number of plans listed under "2" and "3" above that have been/are being accomplished by A&E?.... 4.3

5. Number of major, targeted planning studies, other than master plans or regional complex plans, that have been accomplished since June 1968? (identify nature, such as Feasability Study, AICUZ, etc.

(Responses were inconclusive) ?

6. Indicate the relative distribution, by percent of total manhours, of in-house resources for FY 1975, for each category shown. (Code 202 effort only).

a. Master plans/regional complex plans, in-house 38-

b. Master plans/regional complex plans, A&E admin. 3+

c. Special studies, targeted, in-house/ A&E admin. 14

d. Special studies, non-targeted, in-house/A&E.* 13

e. GDM administration, if Code 202 function.... 8-

f. Site review/certification, if Code 202..... 10+

g. Technical support (graphics, photography, report writing/editing, etc., excluding clerical). 8

h. Other (identify)..(Responses were inconclusive) 6

*Feasability studies, detailed siting studies, economic analyses, relocation, land exchange, etc.

7. Non-targeted workload items, as discussed above, are usually generated from outside sources. List below the primary originators of these studies, based on past experience, ranking sources in order, from 1 to 6.

District Commandants	2.2	Fleet Commands	2.8
NAVFAC Headquarters	3.6	Local Command (EFD)	2.8
Field Activities	3.4	Other Agencies, etc.	6.0

8. Indicate the relative impacts, in terms of Code 202 time/resource allocation, of the non-targeted workload items discussed above. Rank in order, "1" to "6", based on the categories listed.

Special planning studies	1.3	Point papers, etc.	4.8
Briefings/presentations	2.6	Meetings/conferences	4.3
Coordination/liason	2.5	Other (describe) (General planning assistance)	5.3

EVALUATION: (HQ & EFD's, INST's, and A&E's). Note - where an evaluative question is proceeded by a single box, it is intended that the answer be weighted on a scale of "1" to "5", with "1" representing the highest rating/largest value/most positive response, and "5" representing the lowest rating/smallest value/most negative response. A rating of "3" should indicate a neutral, average, or undecided position.

1. GOAL ATTAINMENT: OPNAVINST 11010.1F defines "Shore Installation Master Planning" as, "The scientific art of comprehensive planning performed for an activity or a complex of activities to assure the timely and orderly physical develop of facilities required to support present and future military operations. This process blends considerations of the total environment including physical characteristics, operational necessities, human interests, and areas of mutual interest beyond station boundaries."

   NAVFACINST 11010.45 defines a "Master Plan", as approved by CNO or CMC, as "...the official planning document for the Naval activity or complex of activities covered by the Plan. It represents in graphic, narrative and tabular form the present composition of the activity and proposes the timely, efficient and orderly physical development required to perform its assigned mission and to meet its planned operational workload as quantified in the statement of Logistic Support Requirements, reference (c). The Master Plan also provides information useful in planning the operational expansion of the activity beyond its present mission, up to its maximum capability."

   Subsequent revisions of the NAVFACINST 11010.45 have expanded on these definitions by emphasizing the interface with state, regional and metropolitan planning goals and development plans adjacent to activity boundaries, and the necessity for sensitive consideration of the physical and social environment.

   Assumming that these definitions constitute planning goals or objectives to be attained through implementation of the Navy's Master Planning Program:

   a. How closely do you consider that the master planning process, as outlined in the instructions and as conducted in your office, has adhered to the stated goals and objectives? (consider adherence in terms of both <u>stated</u> procedures and <u>actual</u> procedures, and rate on the basis of "1" to "5", for each category shown on the following page).

	Stated		Actual	
1) Methodology of Plan preparation	2.3 [1.5]	2.0	N/A [1.8]	2.0
2) Format and Contents of Plan....	2.0 [1.8]	1.5	N/A [1.8]	1.0
3) Implementation procedures.....	2.1 [2.2]	2.0	N/A [2.2]	2.0

b. In what areas, and to what extents, has the Master Planning Program been successful in meeting the stated goals? (explain).

HQ/EFD's - Quite successful, as a general framework

INST's. - Fairly successful in land use & facility siting

A & E's - Quite well in all respects but implementation

c. In what areas, and to what extents, has the Master Planning Program failed to meet the stated goals?

HQ/EFD's - Preparation too lengthy - plans subjectsto change

INST's. - Response to current req.s. - support for funding

A & E's - Implementation, which is slow and inconsistent

d. To what factors do you attribute the areas of failure?

HQ/EFD's - Personnel rotation - Unforeseen changes - lack of communication.

INST's. - Unforeseen changes - Inadequate implementation support.

A & E's - Economic/political factors beyond planner's control.

e. Do you believe that the stated goals are; (check)

Too General	2 [0] 0	Too Specific	0 [0] 0	Irrelevant	0 [0] 0
Satisfactory as stated	7 [5] 3	Other (explain)....		0 [0] 0	

f. Can you suggest a better, (more realistic or precise) statement of policies, goals or objectives on which to base the Master Planning Program?

HQ/EFD's - No

INST's. - More attention to phasing/SFPPS/mid-range devel.

A & E's. - Drop use of the word, "timely"

g. Do you consider that there are other significant goals to be attained, even though they need not be stated in official directives? (if "yes", explain).

(No responses)

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1. METHODOLOGY: (HQ/EFD's & A&E's only) NAVFACINST 11010.45, with subsequent revisions, outlines a precise methodology for accomplishment of Master Plans, including Scope of Work, Data Gathering, Field Investigation, Planning Analysis and Concept Development, Coordination and Review, Publication, Submission, Approval and Updating. In your opinion:

a. How relevant is this methodology to the attainment of stated goals and objectives? (rate on the basis of "1" to "5")..... [2.2] 2.0

b. Do you believe that the methodology is: (check)

Too Extensive [3.5] 0 Too Limited [0] 0 Irrelevant [1.5] 0

Satisfactory as stated [1.0] 3 Other (explain)..... [0] 0

c. Which elements of the Master Plan Methodology do you consider to be the most sensitive to Master Plan quality, and why? _____

HQ/EFD's - Planning Anal. & Concept Devel. - Field Invest.

A & E's. - Scope of Work and Planning Program (+ above)

d. Which elements of the Master Plan Methodology do you consider to be the most troublesome to accomplish, and why? _____

HQ/EFD's - Coordination and Review - Publication

A & E's. - Coordination and Review - Data Gathering

e. Which of these elements would you add, delete or modify, to arrive at a better Master Plan Methodology?

HQ/EFD's - (Responses were inconclusive)

A & E's. - Add a "Draft Review", prior to preliminary submittal.

3. FORMAT and CONTENTS: (HQ/EFD's, INST's. and A & E's.)

NAVFACINST 11010.45 and subsequent revisions outlines the required format and contents for Master Plans. Format items include Executive Summary, Introduction, Area Factors, Installation Description, Planning Analysis and Development Concepts, and Recommendations, with Appendices.

Contents items include various maps and plans, augmented by charts, tables, diagrams and photographs as necessary to suit specific situations. In your opinion:

a. How relevant are the specified Format and Contents items to the attainment of stated goals and objectives? (rate on the basis of "1" to "5"). 2.1 2.2 2.0

b. How useful is the end-item document to each of the following? (rate on the basis of "1" to "5").
(HQ/EFD's only)

1) Installation..... 1.0

2) Chain-of-Command..... 2.0

3) NAVFAC / EFD..... 1.1

4) Other (explain)(DOD.-.SECNAV.-.CNO.-.etc.). 3.3

c. Which items of the Format and Contents do you consider to be the most important to the quality and usefullness of the Master Plan, and Why?

HQ/EFD's - Planning Anal./Devel. Concepts - Recommendations

INST's. - Same as HQ/EFD's

A & E's. - Same as HQ/EFD's, + Executive Summary

d. Which items do you consider to be the least important?

HQ/EFD's - Area Factors - Installation Description

INST's. - Same as HQ/EFD's

A & E's. - Area Factors - Introduction

e. What items of the Format and Contents would you add, delete or modify to arrive at a better Master Plan document? (explain). All = Reduce items noted above -

INST's. - Add Basic Facilities Requirements List and Project Phasing and Priority list.

NOTE: Supplemental, page included to show alternate question 3.b asked of Installations, shown in box.

3. FORMAT and CONTENTS: NAVFACINST 11010.45 and subsequent revisions outlines the required format and contents for Master Plans. Format items include Executive Summary, Introduction, Area Factors, Installation Description, Planning Analysis and Development Concepts, and Recommendations, with Appendices.

Contents items include various maps and plans, augmented by charts, tables, diagrams and photographs as necessary to suit specific situations. In your opinion:

a. How relevant are the specified Format and Contents items to the attainment of stated goals and objectives? (rate on the basis of "1" to "5"). [ ]

b. How useful has the end-item document been in each of the following contexts? (rate on the basis of "1" to "5").

1) Guide for preparation of project sumittals	3.0
2) Guide for physical plant management.....	3.2
3) Guide for facilitating community interface	3.0
4) Other (explain)(Briefing guide for activity)	1.1

c. Which items of the Format and Contents do you consider to be the most important to the quality and usefullness of the Master Plan, and Why?

_____

_____

_____

d. Which items do you consider to be the least important?

_____

_____

_____

e. What items of the Format and Contents would you add, delete or modify to arrive at a better Master Plan document? (explain). _____

_____

4. PLAN IMPLEMENTATION: (HQ/EFD's and INST's. only) Master Plans are implemented through the processes of construction programming, site review and certification, GDM administration and continuing liason with the subject installation and its chain-of-command. In your opinion:

a. How closely has the ensuing physical development of installations followed the Master Plan recommendations? (rate on basis of "1" to "5"). 3.0 [2.2]

b. Where Master Plan recommendations have been followed, has the actualization generally been closer to the <u>letter</u>, or the <u>spirit</u> of the recommendations? (circle the term which is more applicable). ("Spirit", all cases)

c. To what factors do you attribute observed major deviations in Master Plan implementation? (rate the factors shown below on a scale of "1" to "5").

1) Lack of coordination/concern in programming 3.4 [3.5]

2) Lack of coordination/concern in site review 3.4 [4.5]

3) Lack of coordination/concern in GDM admin. 3.4 [4.5]

4) Ineffective liason with Installation/sponsor 3.3 [2.8]

5) Other (specify)..... 2.2 [1.2]

d. What do you consider to be the most important factors in successful Plan implementation, and why?

HQ/EFD's - Coordination between all parties involved

INST's. - Regular and frquent updating - funding support

e. What do you consider to be the least important factors in successful Plan implementation, and why?

HQ/EFD's - General Development Map administration

INST's. - Retention of unsupported projects

f. Considering your geegraphic area as a whole, to what extent do you feel that Master Plans have been accepted by the subject installations?..... [2.4]
(rate on the basis of "1" to "5")

g. What would you suggest to improve the process of consistent and timely Master Plan implementation? (use separate sheet for response) (see top of next page)

19[illegible]

HQ/EFD's - Shorten preparation & review process - provide a staff planner at major installations
INST's. - Increase Sponsor recognition - reular review/update

5. PROGRAM EFFECTIVENESS: This issue is concerned with the overall effectiveness of the Navy's Master Planning Program in satisfying military requirements at the local level, and in responding to changing situations within the military establishment.

(HQ/EFD's, INST's. and A & E's.)

a. What do you consider to be the most significant "real" facilities development needs at the majority of Naval and Marine Corps installations? (rate the categories below in order, "1" to "8").

1) Definition of general land use boundaries, affording functional compatability and expansion potential in facilities development.	3.1	2.6	3.3
2) Satisfaction, through site allocation, of all activity BFRL requirements.	3.1	3.6	2.0
3) Specific site allocations for facilities of major importance or high priority.	3.3	4.1	3.7
4) Resolution of access, circulation and parking problems.	5.1	5.1	2.3
5) Replacement/rennovation of substandard facilities.	3.6	4.1	4.3
6) Statement of architectural character and overall base attractiveness goals.	6.1	5.8	6.0
7) Protection of existing real estate and facilities from community encroachment.	4.2	3.0	6.3
8) Other (explain) HQ/EFD's - Evaluation of problems and capabilities: INST's. - Priorities for implementation: A&E's - Flexibility in project phasing.	5.0	6.8	?

b. How well do you believe that the Navy Master Planning Program has satisfied the "real" facilities development needs of Naval and Marine Corps installations? (rate on basis of "1" to "5"). 3.1 | 1.8 | 1.7

c. Are you aware of instances where the Master Plan had no appreciable positive effect on the installation? YES 2 NO 4 .

d. Are you aware of instances where the Master Plan had a negative effect on the installation?

YES 0 NO 6 (explain, if "yes").

19[illegible]

e. How well does the Master Plan Program accommodate unforseen changes in installation mission, tasks, workload, base loading, etc.? (rate on the basis of "1" to "5").....2.6
(HQ/EFD's only)

f. How well does the Master Plan Program accommodate the full spectrum of characteristics among various installations, such as nature of mission, geographic location, configuration, physical plant, etc.? (rate on the basis of "1" to "5").....1.5
(HQ/EFD's only)

g. How well does the Master Plan Program accommodate changes in Congressional/DOD/CNO policy, such as MCON funding availability, National defense posture, pollution abatement, energy conservation, natural and physical resources management, social standards and amenities, etc.? (rate on the basis of "1" to "5").....1.7
(HQ/EFD's only)

h. The above three questions elicit a subjective response to generalized situations, concerning the flexibility of the Master Plan Program in meeting varying circumstances and unexpected developments outside the sphere of the planners' control. Please state here, those specific factors which you believe to be the most significant or troublesome to effective conduct of the Program. State any suggestions you may have for mitigating the situation. (HQ/EFD's only)

Make the master planning process more flexible -

Improve coordination between all parties involved.

i. What do you consider to be the most significant overall benefits provided or promised by a Master Plan? (rank listed items in order, "1" to "12").

(list provided on next page)

1) Accommodation of DOD/CNO policy statements	xxx	4.1 xxx
2) Accomplishment of NAVFAC/EFD M.P. targets	xxx	1.5 xxx
3) Support to project site review/certification	3.7	7.8 5.5
4) Support of construction programming	2.9	6.6 5.0
5) Basis and support for construction funding	2.1	5.7 5.0
6) Allocation of compatible land use	6.9	4.8 2.7
7) Validation of sites for key facilities	4.7	5.5 3.5
8) Provision of sites for all BFRL items	6.6	7.6 5.5
9) Protection of installation from community encroachment	7.0	4.8 9.0
10) Guide for orderly and economical development of installation physical plant	5.7	3.0 1.7
11) Generation of concern for base attractiveness	5.5	7. 9.0
12) Avoidance of economic waste.	7.3	6.3 7.0

j. Who derives the most benefit from Master Plans? (rank in order, "1" to "5").

1) DOD/CNO	3.3	3.0 3.5
2) NAVFAC/EFD	2.4	2.7 2.5
3) Installation	1.8	1.1 1.0
4) Sponsor Command	2.4	2.8 3.0
5) Other (identify) (Community)	2.5	xxx 5.0

k. In summary, indicate your priorities for improvement of the overall quality and effectiveness of the Navy Master Planning Program. (rank in order, "1" to "5").

1) Revise goals and objectives	3.0	2.8 4.0
2) Revise methodology	3.4	3.3 2.0
3) Revise format and contents	2.6	2.0 3.0
4) Revise implementation process	1.5	2.0 1.0
5) Other (explain) (Regular plan review/update. establishment of funding priorities.	1.7	xxx xxx

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6. PRODUCTIVITY: QUANTITY and QUALITY: This issue is concerned with productivity in Master Planning, including both quantitative and qualitative outputs.

(HQ/EFD's only)

a. How would you rate the productivity of your branch in terms of quantity output, i.e., number of Master Plans completed/underway, as compared to established targets? (rate on the basis of "1" to "5")..... 2.3

b. How would you rate this productivity in terms of "ideal" or "absolute" output, irrespective of established targets? (rate "1" to "5")..... 2.5

c. How would you rate the productivity of your branch in terms of quality output, i.e., content, appearance, usefullness, etc., of Master Plans? (rate "1" to "5")..... 1.3

d. Since June 1968, how many installation master plans/ naval complex regional plans has your branch completed through at least the preliminary stage? 18.7

1) How many of these have been approved by CNO? 12.7

2) How many have been accepted by the subject installation without significant change? 17.2

3) How many have been accepted by NAVFAC without significant change? 16.7

e. Where significant changes were required, how would you explain the reasons? (check the appropriate boxes and weight the respose, "1" to "5", depending on relative impact of the item selected).

1) Change in installation mission, workload, etc. 2.2

2) Other "structural" change (explain)..... 3.6

3) Inadequate compilation/analysis of data..... 3.6

4) Ineffective communication with installation... 4.8

5) Disagreement of basic/general plan concepts... 4.4

6) Disagreement of specific development proposals 4.2

7) Inadequate Plan format or contents..... 4.0

8) Other (explain)..... xxx

f. In general, have Master Plans prepared by A&E required more (4) or less (2) time to complete than those accomplished in-house? (check one item).

g. Regarding the above question, how significant has the time difference been? (rate "1" to "5"). [2.8]

h. In general, have Master Plans prepared by A&E been of higher (1) or lower (5) quality than those accomplished in-house? (check one item).

i. Regarding the above question, how significant has the quality difference been? ("1" to "5"). [2.0]

j. In general, do you prefer accomplishment of Master Plans by in-house (6) or A&E (0) effort? (check one item). Explain your reason.

Navy planners more familiar with, and have better access to data sources and key personnel. Can absorb impact of changes and delays more easily.

k. Given the conditions that a certain level of Master Plan output must be maintained, in terms of both quantity and quality, and that a completed Master Plan of marginal quality is still better than no Master Plan at all, which do you consider to be more important to the Navy?

1) Maximum quantity with marginal quality..... [(2)]

2) Maximum quality with marginal quantity..... [(4)]

Comments? Question is unfair, as both are needed and of equal importance. If choice must be made, have to opt for quality.

l. Indicate, by rank, your opinion of the major obstacles to achievement of high productivity in Master Plan output. Consider both quantity and quality aspects, and rate each item on the basis of "1" to "5".

(see next page for listing of items).

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	Quantity	Quality
1) Difficulty in obtaining good planning data...............	4.0	4.2
2) Lack of interest/cooperation by the installation.........	4.3	3.8
3) Unforseen changes in internal or external environment.....	3.3	2.7
4) Lack of competence/motivation among Navy planners.........	4.8	4.8
5) Constraints imposed by established Master Plan reqirements	3.6	4.0
6) Inadequate personnel/fiscal resources...................	1.8	3.1
7) Obstructions within the EFD management..................	3.6	3.6
8) Obstructions with the installation Chain-of-Command......	3.5	3.8
9) Inadequately defined goals/ objectives for planning.....	4.3	4.3
10) Extensive periods of review/ pending guidance............	2.1	2.0
11) Interruptions due to brush fires/other priorities......	1 [illegible]	2.1
12) Other (explain)	XXX	XXX

m. For your top-ranked items above, what would you suggest as a means to improve Master Plan productivity, in terms of both <u>quantity</u> and <u>quality</u> output?

Modify, expedite or eliminate the review procedures -

Isolate master planning teams from disrupti[illegible] (internal)

7. PROGRAM MANAGEMENT: This issue is concerned with the capability of the EFD to effectively meet Master Planning Program requirements and targets, within the scope of available resources and prevailing management policies.

(HQ/EFD's only)

a. Are you able to effectively meet assigned Master Plan targets within the scope and configuration of present resources and prevailing local management policies?

Always (0) Most of time (5) Sometimes (1) Never (0)

b. If answer above is other than "always", do you attribute this inability primarily to; (rank in order, "1" to "5").

1) Manpower shortages..... 1.3

2) Functional organization..... 3.1

3) Management policies..... 2.8

4) Personnel malaise..... 3.6

5) Other (explain)..... xxx

c. If you could augment your present resources, what would be your priorities? (rank in order, "1" to "6").

1) Professional personnel..... 2.2

2) Technical support personnel..... 1.8

3) Clerical/administrative personnel..... 3.0

4) Contract professional services..... 4.4

5) Contract technical support services..... 3.8

6) Other (identify)..... xxx

d. How would you rate the degree of professional communication between members of your staff, i.e., the extent of agreement on standardized planning concepts, approaches and techniques?
(rate on basis of "1" to "5")..... 1.5

e. Regarding the question above, how important do you consider this to be? (rate on basis of "1" to "5"). 1.8

f. Recognizing that, on the one hand, master planning is a time-consuming, complicated process, and on the other hand, that excessive delays perpetrate additional work, as a result of obsolescence and redundancy, what do you consider to be the "optimal" time required for completion of a Master Plan? For this purpose, assume a Plan of typical complexity, and a work schedule commencing with the initial assignment and extending through submittal to NAVFAC. Assume a "reasonable" amount of time allocated to presentations and review, and to publication. (Responses of HQ, 5-EFD's, and 3-A&E's).

<3 months (0) 3-6 months (1) 6-9 months (1)

9-12 months (5) 12-18 months (2) >18 months.

g. What do you consider to be a "reasonable" time to be allocated to presentations and review periods, as reflected in the above schedule, assuming that they occur at the preliminary and pre-final stages, and at both the local and Washington, D.C. levels? (Responses of HQ, 5-EFD's, and 3-A&E's)

<3 weeks (0) 3-6 weeks (3) 6-9 weeks (3)

9-12 weeks (2) >12 weeks (0)

h. If actual experience indicates more time expended for presentations and review periods than you consider "reasonable", what would you suggest as a means to expedite this process?

(All) = Various possibilities, but no strong probabilities.

Presentation and review is a necessary, if frustrating reality of master planning.

i. In your experience, are substantial delays in Master Plan preparation due to diversion of team personnel to other, non-targeted jobs of the brush-fire category which do not contribute directly to the Plan accomplishment? Yes (2) Somewhat (4) No (0). (HQ/EFD response only)

j. If your answer above is other than "no", how severe do you consider the impact on productivity to be? (rate on the basis of "1" to "5")..... 2.2

k. Do you consider this manpower diversion to be an inescapable consequence which must be accommodated? (HQ/EFD response only)

Yes (3) Somewhat (3) No (0)

l. If your answer to the previous question was other than "yes", how would you correct the situation? (rate in order of preference, "1" to "5").

1) Reorganize internal functions.....	2.0
2) Change management policies.....	0.8
3) Hire more people.....	2.0
4) All of the above,.....	xxx
5) Other (explain).....	xxx

m. Do you feel that the major problems with effective accomplishment of the Master Planning Program lie at the Headquarters level? YES (1) NO (5)

n. If your answer to the above question was "yes", what would you recommend to mitigate the problems? Consider the requirements of the Master Plan instruction, Headquarters" management and administrative policies,etc.

HQ/EFD's - Expedite the Washington level review process.

o. Do you feel that the major problems with effective accomplishment of the Master Planning Program lie a. the local EFD level? YES (3.5) NO (2.5).

p. If your answer to the above question was "yes",.what would you recommend to mitigate the problems? Consider organizational structure, local management policies, manpower limitations, etc.

HQ/EFD's - Increase the size of planning staff - Reorganize internal funtions for greater flexibility.

8. EXTERNAL IMPACTS: (HQ/EFD's only, except questions d.,e. and f.) This issue is concerned with the growing requirement for interface between the Navy and both the civilian community and other governmental agencies, in matters relating to planning and development.

a. What relative extent is your branch involved in this type of interface, compared to the level of of similar activity in the 1968-1970 time frame? (rate on the scale of "1" to "5")..... [1.4]

b. In general, how much importance do you place on this type of interface? (rate on "1" to "5" basis). [2.1]

c. To date, how beneficial to the Navy do you feel that this type of interface has been? (rate on "1" to "5" basis)..... [2.9]

d. How well do you believe the Master Plan Program accommodates public concerns regarding: (rate each item on a "1" to "5" basis)

1) The use and disposition of military property.... [2.2 2.6 3.0]

2) The status of environmental quality..... [2.7 2.1 2.0]

3) Social and economic impacts on communities..... [3.7 2.3 2.5]

e. To what relative extent should Navy planners maintain interface with the civilian community during the master planning process?(rate on "1" to "5" basis) [1.6 2.0]

f. Comments? Responses inconclusive, but concensus is for more interface than in the past.

f. At what stages of development should Navy Master Plans/ Regional Complex Plans be released for public angency review? (check one or more boxes, as appropriate).

Conceptual [(3)] Preliminary [(3)] Pre-final [(2)]

Approved [(5)] Other (explain)_____ [xxx]

g. Do you believe that interface between the Navy and the community on matters of planning and development can be most effectively conducted on the staff level, in an informal manner, (5), or on the management level, in a more formal manner (5)? (indicate by check mark).

h. What actions would you propose, (if any), to achieve more effective coordination between the Navy and the community on matters of planning and development?

(Responses were inconclusive, but there was general concensus that a lot more could, and should, be done in this matter).

9. ALTERNATIVES to MASTER PLANNING: (HQ/EFD's only) This issue is concerned with the value of long-range, comprehensive facilities planning as currently practiced by the Navy, and proposes two alternative concepts for consideration.

a. No Master Planning: Under this concept, facilities planning would be limited to administration of the SFPPS System, (i.e., establishment of requirements, engineering evaluation, identification of facilities excesses and deficits, and programming for their disposition or satisfaction), the GDM process, facility siting on a case basis, and accomplishment of special planning studies as required.

1) Do you recognize any justification for this approach?

(explain) "Yes" = (2) - "No" = (4)

2) What are the major potential benefits? (explain)

"None" = (4) - "Better response to immediate installation needs" = (2)

3) What are the major potential pitfalls? (explain)

"A chaotic situation, as in the early 1960's - No comprehensiveness - no consideration for the environment" = (6) 19

b. Policy Planning: This concept would be an extension of the "no master planning" approach, in which all future planning decisions for a given installation would be based on an approved set of planning and development policies. These policies would set general standards for land use allocation, facilities siting, circulation, architectural character, etc., and would be approved by the Command. The policies may be accompanied by maps and plans where appropriate, indicating the graphic depiction of these policies in conceptual form.

1) Do you recognize any justification for this approach?

(explain) "Yes" = (4) - "No" = (1) - "Undecided" = (1)

2) What are the major potential benefits? (explain)

Better response to immediate installation needs - Some degree of order and logic in planning for development on an incremental basis.

3) What are the major potential drawbacks? (explain)

Lack of clarity on who will make the major planning decisions - Lack of "standards" by which to judge the value of proposals.

c. Other Alternatives? Can you suggest other alternative approaches which should be considered? If so, please summarize in the space below.

(No responses).

THIS IS THE END OF THE SURVEY QUESTIONNAIRE.
THANK YOU VERY MUCH FOR YOUR COOPERATION.

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