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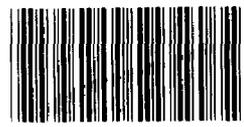
General Accounting Office

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The District Of Columbia Government Should Determine Its Work Force Needs

The District's departments and agencies lack information on the numbers and types of employees needed. Method studies and work measurements should be used to the extent feasible to assure that accurate, reliable projections are made. Work force needs should be reported to the Mayor's office for use in analyzing budget requests and in controlling the size of the work force.

GAO recommends that the Mayor establish a standardized system for evaluating staffing needs and develop a schedule of resources for implementing it.



109015

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FPCD-79-21
APRIL 4, 1979





UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

FEDERAL PERSONNEL AND
COMPENSATION DIVISION

B-118638

The Honorable Marion S. Barry
Mayor of the District of Columbia

Dear Mayor Barry:

This report discusses the need for a documented work force planning system using disciplined procedures, work measurement techniques and work method studies to determine the appropriate number of each type of employee needed to perform essential services of acceptable quality. We have discussed the information in this report with representatives from your office.

Our recommendations to you are set forth on page 15. As you know, section 736 of the District of Columbia Self-Government and Governmental Reorganization Act of December 24, 1973, requires that within 90 days after receipt of our report, the Mayor shall state in writing to the Council of the District of Columbia, with a copy to the Congress, what has been done to comply with the recommendations in the report.

We are sending copies of the report to the House Committee on the District of Columbia, the Senate Committee on Governmental Affairs, the House and Senate Committees on Appropriations, and the Council.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "H. L. Krieger".

H. L. Krieger
Director



GENERAL ACCOUNTING OFFICE
REPORT TO THE MAYOR OF
THE DISTRICT OF COLUMBIA
GOVERNMENT

THE DISTRICT OF COLUMBIA
GOVERNMENT SHOULD DETERMINE
ITS WORK FORCE NEEDS

D I G E S T

Personnel costs account for well over half of the District's budget. A budgeting official estimated that about 57 percent of the District's fiscal year 1979 appropriations request was for personnel. Thus, it is very important to control this cost through effective work force planning. (See p. 1.)

The Nelsen Commission was established by Congress in 1970 to determine ways to promote economy and efficiency and improve service within the District government. In 1972 it recommended among other things that the District require each department and agency having at least 50 employees determine annually its staffing needs based on rational work measurement methods and that the system be controlled by the District's Executive Office of the Mayor. DLG01411 (See p. 2.)

The District's Office of Budget and Management Systems has not established policies requiring departments and agencies to send it annual staffing plans as the Commission recommended. Five of the six departments GAO reviewed do not determine work force requirements nor prepare staffing plans. They believe they know how many positions they need based on experience and manager's judgment.

The sixth department had a formal system and a full-time staff which prepared plans, measured work, and analyzed work functions; however, the results were only for its own use. (See p. 4.)

Work force positions requested in the annual budgets are not justified unless increased over the previous years' approved positions and then only the incremental increase is justified. Positions to be separately funded by Federal grants are not justified in the budget. (See pp. 4 and 5.)

The District tries to control its work force levels by imposing ceilings. These ceilings are arrived at arbitrarily and are applied without regard to actual needs. GAO has long been opposed to use of ceilings to control the size of the Federal work force since it deprives managers of discretion in allocating staffing resources where best needed. Thus, GAO believes also ceilings should not be used in the District. Office of Budget and Management Systems officials said they have not established a work force planning system because it would require a large, costly staff. Further, they believed the budget constraints and ceilings presently used were sufficient to control the work force.

The District has no policy regulating work measurement and no office designated to direct and control it. Various departments use work measurement on a fragmented basis. In most cases, it was incomplete in nature and application. The work measurement efforts were rarely used to prepare staffing plans. (See pp. 4, 5, and 6.)

Work measurement is important in staff planning because it can result in increased efficiencies and significant savings. Office of Budget and Management Systems officials said they did not emphasize work measurement because among other things, it was not applicable to many functions and would be meaningless in cases where employment levels were directed by court orders, union contracts, and political pressure. Although recognizing some of these points deserve consideration, GAO does not agree that they warrant avoiding work measurement. (See pp. 12, 13, and 14.)

GAO concludes that the District does not know how many employees it needs since it lacks a work force planning system. District officials defend their failure to implement the Nelsen Commission recommendation on the less-than-convincing rationale that it is too costly and time consuming. GAO believes that without such a system the District cannot plan and manage its work force. (See pp. 13 and 14.)

In the absence of a work force planning system, the District's departments and agencies vary widely in determining staffing needs and the use of work measurement. One department has a documented system based on use of work measurement. Some departments have standards for some work while other have none. (See pp. 9 and 10.)

AGENCY COMMENTS

District government officials did not disagree with or take exception to GAO's conclusions and recommendations. They agreed that no records were maintained reflecting the interface between work load and work force. Among other things, the District officials commented that:

- They studied the Nelsen Commission recommendations on staff planning but did not implement them because of resources needed and constraints involved.
- Their analysis of staff during budget considerations, although informal, is based on experience and manager's judgment.
- The District's work force has been steadily declining because of their concern and effort.

While recognizing some efforts have been made to relate portions of work load to staffing needs, GAO is concerned that disciplined procedures have not been applied

to establish work force requirements throughout the District government. GAO believes that the opportunities for improvement are great and that the cost of data collection and analysis must be borne to achieve the benefits.

RECOMMENDATIONS

GAO recommends the Mayor direct his staff to set up a work force planning system which bases staffing needs on the results of method studies and work measurements. The system should include statements of goals and responsibilities for each department and agency and provide for annual staff planning reports as the Nelsen Commission recommended. The work force planning system should contain the attributes of the model system set forth in appendix II. (See p. 19.)

GAO believes the work force planning system should identify essential work to be performed by persons occupying positions which are

- full time permanent,
- funded under Federal grant and nonappropriated sources,
- part time and temporary, and
- special employment types.

GAO recommends the Mayor prepare a plan for implementing a work force planning system, which would include a schedule of resources needed. (See p. 16.)

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ABBREVIATIONS

CETA	Comprehensive Employment Training Act
GAO	General Accounting Office
OBMS	Office of Budget and Management Systems
PMS	Performance Monitoring System

CHAPTER 1

INTRODUCTION

Effective work force planning is necessary because personnel costs are a large part of total government cost at the State and local levels. A District government official estimated that personnel costs account for about 57 percent of the \$1.4 billion budget for fiscal year 1979. Over the years, the Congress and the President have been concerned that Federal and District agencies manage their personnel in the best way possible. In recent years, we have issued several reports on Federal agencies' use of work force planning and work measurement (appendix I).

WORK FORCE SIZE AND NATURE

The District government work force consists of persons paid through directly appropriated funds, Federal grants, or other grant and reimbursable programs. Appropriated funds come from general tax revenues, various fees and charges, and the Federal supplement. The fiscal year 1979 budget request provided for 35,274 permanent full-time positions to be covered by appropriated funds. Additionally, the District estimated there would be 8,708 Federal grant and 2,583 reimbursable and other grant positions. In all, the budget request showed a total of 46,565 District positions for fiscal year 1979.

The budget request, however, does not identify numbers of persons hired on a temporary basis. Thus, the number of persons on the payroll exceeds the number of estimated positions. Payroll records indicated that about 55,673 were on the rolls at the end of March 1978. The payroll varies during the year and usually reaches its peak in the summer months because of youth hiring programs.

The total work force includes employment in the executive, judicial and legislative branches of the District government. The following table shows the size of the major operating executive departments' work force as presented in the fiscal year 1979 budget request.

Major executive departments	Number of positions (note a)			Total
	District appropriations	Federal grant	Other (note b)	
Police	4,673	-	36	4,709
Fire	1,566	-	-	1,566
Corrections	2,100	1	32	2,133
Public Schools	9,789	1,397	9	11,195
Recreation	764	516	1	1,281
Human Resources	6,212	1,272	55	7,539
Transportation	1,042	13	-	1,055
Environmental Services	2,737	-	20	2,757
Finance and Revenue	615	-	-	615
General Services	536	-	-	536
Economic Development	156	1	-	157
Labor	16	470	-	486
Housing and Community Development	274	1,544	-	1,818
Total major executive departments	<u>30,480</u>	<u>5,214</u>	<u>153</u>	<u>35,847</u>
Other executive departments, agencies and commissions, D.C. Court System and city legislative offices	<u>4,794</u>	<u>3,494</u>	<u>2,430</u>	<u>10,718</u>
Total D.C. government	<u>35,274</u>	<u>8,708</u>	<u>2,583</u>	<u>46,565</u>

a/Source: The fiscal year 1979 budget request to the City Council.

b/This includes portion funded by reimbursable sources and private grants.

NELSEN COMMISSION RECOMMENDATION
ON WORK FORCE PLANNING

DLG 01412

On September 22, 1970, a Commission on the Organization of the Government of the District of Columbia was established by Public Law 91-405. The Commission was to determine ways to promote economy and efficiency and improve services within the District government. After a comprehensive study, the Commission submitted its report to the Congress in August 1972.

Among other things the Commission recommended establishing a work force planning program within the Executive

Office of the Mayor. It stated that the goal of the program should be to determine staffing needs based on rational work measurement methods. The Office should be responsible for providing guidance and coordinating work force planning among the District's departments and agencies. The Commission recommended that work force requirements determination be performed annually and that long range projections of staffing needs be done by each office having at least 50 employees. The Commission further recommended that each agency's plan be categorized by major occupation, grade level, and major function and identify changes resulting from work measurement and increases in work force due to grants. The Commission concluded that implementation of a staff planning system would pay off in the long run.

SCOPE OF REVIEW

We examined policies, procedures, and practices used by the Executive Office of the Mayor to determine the District's work force needs and to justify budget requests to the Congress for personnel. We examined the budget, various records, and the procedures for determining work force requirements which are followed by several selected departments within the District. These include (1) Environmental Services, (2) Transportation, (3) Human Resources, (4) Finance and Revenue, (5) Corrections, and (6) Police. We also examined Federal grant requirements and procedures for determining staffing needs. We analyzed employment trends for the 5 years ending at fiscal year 1979 and reviewed reports and studies by various State- and local Government-oriented research organizations.

We talked with responsible officials of the Executive Office of the Mayor and the selected departments.

Our evaluation centered on systems used to determine requirements and the extent that effective work measurement techniques were used. We did not measure work and calculate requirements or verify information on records and computer printouts provided by District officials.

CHAPTER 2

OPPORTUNITY FOR NEW DISTRICT ADMINISTRATION

TO IMPROVE WORK FORCE PLANNING

Effective January 3, 1979, a new Mayor took over the reins of the District government. At present, the District government has no system to determine its work force needs. Departments and agencies within the District do not justify total work force needs in their budgets. Federal grant positions are not justified at all and positions paid by appropriated funds are not justified unless an increase over the previous year's positions is requested. In the absence of a work force planning system, such as described in appendix II, the District cannot document the need for its employees.

THE DISTRICT DOES NOT DETERMINE ITS WORK FORCE REQUIREMENTS

The District's Office of Budget and Management Systems (OBMS) has not set forth policies requiring departments and agencies to annually send it staffing plans as the Nelsen Commission recommended. The departments we reviewed do not receive work force planning guidance from the Executive Office of the Mayor. OBMS does not provide work force planning guidance to the departments and agencies nor perform any review of their work force planning.

The Environmental Services, Human Resources, Transportation, Police, and Finance and Revenue departments do not determine work force requirements nor prepare staffing plans. However, they believe they know how many persons are needed based on past experience and managers' judgment.

The Department of Corrections has a formal work force requirements determination system; however, it is largely for internal use. Its officials claim they could justify every employee if someone requested it. Further, the department's system is used to prepare its budget requests. The department has a full-time staff which prepares plans, measures work, and analyzes work functions.

Determining staff needs in the District, to the extent it is done, is part of the incremental budgeting process. OBMS provides budgeting guidance to the District's departments and agencies through means of a budgeting limit for each. Usually, this is last year's budget with adjustments for inflation and required organization changes. Departments

and agencies state their work force needs but they are not required to justify staffing unless they request more positions than the previous year's levels. Then they must justify only the incremental increases. Department officials told us they based staffing requests on previous year's figures and asked for additional positions if work load requirements are expected to increase.

Budget requests are for authorized positions and relate only to positions paid through the District's appropriated funds. The budget does not include justification for increases in employees needed under Federal grant programs. Further, the budget does not identify requirements for part-time and temporary employees. Officials at OBMS told us they had not established any work force planning system because it would be costly and require a large staff. Further, they felt that budget constraints and ceilings provided by the present system were sufficient to control the work force.

ARBITRARILY IMPOSED CEILINGS ARE NOT
AN EFFECTIVE ALTERNATIVE TO WORK FORCE
REQUIREMENTS DETERMINATION

Annually the Mayor and City Council establish ceilings to control work force levels in the District government. These ceilings, however, apply only to positions paid for by appropriated funds. OBMS officials told us these ceiling levels were arbitrarily determined. Generally they were based on the previous year's approved positions. OBMS applies a fixed across-the-board percentage for increases or decreases.

The ceilings relate only to overall numbers of persons on the rolls. They are not set according to skill level, work function, or grade level. The ceiling is part of the budget request to the Congress and may be revised by the Congress. It becomes law upon passage of the Appropriations Act. The fiscal year 1979 act (Public Law 95-373) provides that appropriations in this act shall not be available for compensations of any person appointed as a full-time employee to a permanent authorized position during any month when the number of such persons is greater than 37,161 nor as a temporary or part-time employee in any month in which the number of such employees exceeds the number of such employees for the same month of the previous fiscal year.

Department and agencies may be permitted to exceed their individual ceilings as long as the District ceiling is not exceeded. OBMS prepares bi-weekly summaries of

employees on the rolls based on central payroll system data. OBMS uses these reports to monitor employment levels and assure adherence to the ceilings.

Ceilings can create problems in managing the District's programs. A Department of Human Resources Administration official told us that cuts in employment level resulting from imposition of ceilings are absorbed by not filling vacancies as they occur. This, he said, creates problems since the vacancies may be critical and/or highly skilled positions. A Department of Finance and Revenue official told us that in one of its divisions, professional staff members have to do their own typing and clerical work because ceilings prevented them from filling clerical vacancies. A Transportation Department official said that its staff has steadily declined over the years because of the imposition of ceilings. Cuts have been absorbed in some cases by improving methods of doing work. Cuts have also resulted in discontinuing the safety education program and reducing line painting on streets.

In some areas, ceilings may have no effect on quantity and quality of services because employees paid for Federal grants can fill vacancies caused by cuts in the ceiling-controlled work force covered by appropriated funds. In street cleaning, for example, the District uses Comprehensive Employment Training Act (CETA) persons to supplement the appropriated work force. Bureau officials told us the CETA employees do the same work as the permanent ones. When vacancies occur they can fill them with CETA employees.

Generally, we have been opposed to use of ceilings as a management tool as our report "Personnel Ceilings--A Barrier to Effective Manpower Management" (FPCD-76-88, June 2, 1977), indicated. The report was based on a review of several Federal agencies. It concluded that limiting funding of programs seemed to be an effective means of controlling the number of persons an agency can employ. But reducing work force by imposing ceilings without reducing workload may not result in savings because agencies may contract out for work which needs to be done. Further agencies may use overtime to assure all work is done. Our report emphasized the need for preparing sound estimates of minimum staff requirements to accomplish authorized programs instead of applying ceilings. We believe this provides managers with discretion in allocating resources to provide staffing where best needed. We do not believe ceilings should be used by the District.

CHAPTER 3

WORK MEASUREMENT POLICIES

NEED TO BE ESTABLISHED

Office of Management and Budget Circular A-11 encourages Federal agencies to use work measurement in determining staffing requirements and in preparing budget estimates. It could well serve as a guide for the District. Also, the Nelsen Commission report in August 1972, recommended implementing a centrally controlled work measurement system. The Commission believed that work measurement would lead to more effective management of staff and operations.

Work measurement is an important part of work force requirements determination. By using engineered staffing standards, an organization can estimate the number of each type of employee needed to do essential work. When this is not possible, other less reliable but useful kinds of work measurement can be used. Work measurement techniques are described in appendix III.

The District government has developed no policies on work measurement nor designated an organization to direct and control it. Work measurement by various District departments has been at their own initiative. In most cases they used historical analysis without reliable standards. In some cases department officials were regarding the performance monitoring system 1/ indicators as work measurement. These indicators are merely statistics developed on work done and were not directly related to staffing.

BENEFITS OF WORK MEASUREMENT

As one of our previous reports 2/ indicates, implementation of work measurement increased efficiency and resulted in large savings. The report summarized studies by a professional consulting firm and the Navy which showed that without work measurement performance efficiency ranged from

1/The performance monitoring system is discussed in detail in appendix IV.

2/"Major Cost Savings Can Be Achieved by Increasing Productivity in Real Property Management" (LCD-76-320, August 19, 1976).

30 to 50 percent. Following implementation of work measurement based on engineered standards, performance efficiency increased to 80 percent or more. Two examples follow:

--A major west coast city reported that efficiency increased 45 percent in the work force employed in its Recreation and Parks Department. The city estimated that this increase produced a saving of about \$45 million over an 11-year period, principally in reduced payroll cost. The city's cost to implement and maintain the system for this period was about \$4 million, a net saving of \$41 million. Over 1,250 craftsmen were covered by the system in June 1974.

--A city which implemented a work measurement system in two divisions of its Public Utilities Department in 1969 had efficiency increases of 13 and 23 percent, based on data for 1971 through 1974. This same data showed net annual savings averaging \$200,000 for the work force of about 100 craftsmen.

In another report 1/, we observed that from a monetary standpoint, personnel positions can be saved or better used by applying staffing standards derived from work measurement. For example, as a result of its management engineering program over a period of 15 years, the Air Force has reported cumulative savings of \$894 million.

In its guide to "Productivity Improvement Projects" dated July 1976, the National Center for Productivity and Quality of Working Life also points out the usefulness in using work measurement to increase productivity. For example, it cited a major Florida city which developed a resource management system based on determination of unit costs for municipal services. The unit costs were calculated by measuring the time required to perform essential work and relating these measures to personnel requirements. This system resulted in the elimination of 365 permanent positions at an annual savings of \$2.2 million and provided management with continuing controls for budgeting and measuring performance.

1/"Development and Use of Military Services' Staffing Standards: More Direction, Emphasis, and Consistency Needed" (FPCD-77-72, October 10, 1977).

INSUFFICIENT WORK MEASUREMENT

The six D.C. government departments we reviewed varied in their use of work measurement. The Transportation and Police Departments did not use work measurement. The Department of Corrections used work measurement to develop its staff requirements. The Finance and Revenue departments and one bureau in the Environmental Services Department used work measurement in monitoring performance or to schedule work. Following is a more detailed description of use of work measurement within the District government.

Department of Corrections

The Department of Corrections is responsible for operating the District's detention facilities. It has 2,133 positions.

Corrections officials estimated that about 85 percent of its work force is covered by staffing standards determined by work measurement. The Department's work measurement system uses work task analysis based on professional judgment and historical nonengineering techniques to develop staffing standards which are used to determine staffing requirements. Technical estimates are used for detention center operations while historical estimates are used in support areas. The work measurement system the Department uses is constantly being updated.

Department officials told us it was impossible to use time and motion study in setting up standards. They explained that their work force consisted largely of correctional officers whose duties were standing watch. Thus, there is no tangible product or output to measure. Also it was not possible to use time analyses in the rehabilitation programs where the output of psychologists and therapists was not measurable.

Department of Environmental Services

The Department of Environmental Services is responsible for administering most of the environmental pollution control and community health hazard programs within the District. It consists of three administrations and has about 2,757 positions. Most job assignments in Environmental Services consist of repetitive functions which could be subject to work measurement. Work measurement is used to monitor performance in some areas. The Environmental Health Administration uses staffing standards developed by the historical analyses type of work measurement. The Bureaus of Water

Resources and Solid Waste Management also have staffing standards based on work measurement. Although these activities have staffing standards, they do not use them to justify staff needs or prepare staffing plans.

Department officials had staffing standards based on past engineering studies. These covered activities such as solid waste collection and disposal and street cleaning. The standards were not used in any staffing needs determinations. The officials said they did not have to justify staffing needs unless they asked for more positions and they have not had to do this because their work force has been steadily declining.

Department of Finance and Revenue

The Department of Finance and Revenue enforces the city's tax laws, collects and disburses funds, and researches alternative sources of revenue. It consists of four divisions and has 615 positions.

Finance and Revenue uses work measurement based on historical analyses to evaluate staff. However, it did not have staffing standards. Basically, it used a combination of judgment and past performance to determine its staffing needs.

Department of Human Resources

The Department of Human Resources manages programs for the health and welfare needs of the District of Columbia. It consists of five administrations and has 7,539 positions. Human Resources does not use work measurement to determine staffing needs. Agency officials believe that most of their work does not lend itself to work measurement.

A Community Health and Hospital Administration official told us his bureaus do have staffing standards. These, however, were national standards developed by the Department of Health, Education, and Welfare for Federal grant certification purposes; by professional organizations for accrediting purposes; or by other municipalities for their own staffing purposes. This official said that performing work measurement would not be feasible in the health and medical areas because the work products are not tangible or predictable. He agreed that method studies can be performed to some extent in his area. Officials of the Mental Health, Narcotics Treatment, and Social Rehabilitation expressed similar views.

Metropolitan Police Department

The Metropolitan Police Department enforces the District of Columbia's laws and maintains public order. It consists of four bureaus and has 4,209 positions.

The Department does not use any form of work measurement to determine staffing requirements. Department officials say this lack of a work measurement system is due to the kind of work done by the Department. For instance, a police officer has many different roles which would be hard to evaluate by work measurement. Crime reports, criminal arrest, resolving civil disagreements, and writing traffic tickets are some of these functions. Another difficulty in using work measurement for police work is that the crime rate, which is used to measure police effectiveness, is not directly related to the size of the police force. Actually, other factors such as unemployment, drugs, and the social conditions of an area probably influence the crime rate more than the size of the police force does.

Despite its not using work measurement to determine its staffing needs the Police Department does use some indicators based on past workload to allocate available staff to its divisions. These indicators reflect historical data.

Department of Transportation

The Department of Transportation is responsible for providing safe and efficient vehicular transportation within the District of Columbia. Additionally, the Department has responsibilities in mass transit and transportation research and planning.

The Department does not use any form of work measurement to determine staff requirements. Also, it has no staffing standards. Staff needs are based on the last fiscal year's employment level. Department officials claim that uncontrollable factors, such as weather and time of day, prevent them from having staffing standards. These factors affect the stability of the Department's workload and make it difficult to measure daily performance. Other officials stated that work measurement was useless because staffing decisions in the Government were arbitrary. The goal of these officials is to retain current staffing levels.

The Department has conducted several productivity studies to improve efficiency. In light of recent budget cuts in various program activities, the Department is eager to continue to improve its performance and plans to make more method studies.

WHY D.C. GOVERNMENT HAS NOT IMPLEMENTED
A WORK MEASUREMENT SYSTEM

As the Nelsen Committee Report noted in 1972, the District did not have a system to determine its staffing needs and had not established staffing standards as a means of best using its work force. This problem still exists and little or no improvement has been made. OBMS officials said they have not implemented work measurement because it would be very costly and time consuming to perform and would not be applicable to a number of services the District performs. They said the District would need to hire technical staff to perform work measurement or contract out for it.

OBMS officials said further that work to be performed and staffing to perform it is dictated in many cases by Federal statutes, court orders, or union contracts. Therefore, it might not be useful to perform work measurement in these areas. The officials also commented that District program managers might be reluctant to cooperate with work measurement efforts because they might fear it would result in budget cuts.

Although these views merit consideration, we do not believe they warrant avoiding work measurement in the District government.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

The District does not know how many employees it needs. It lacks a work force planning system which shows to city officials, Congress, and the public the number and types of persons it should have to perform necessary services of acceptable quality and what kinds of services it is capable of providing with present personnel.

The District did not follow the Nelsen Commission recommendation and set up a work force planning system whereby departments and agencies with 50 or more employees would annually submit staffing needs reports to the Mayor. District officials defended their failure to adopt the Commission's recommendations with a less-than-convincing rationale built primarily around the high estimated cost of finding out how many employees are needed. We believe that the cost should not be assumed to outweigh the benefits of an informed, enlightened District management. Presently the District is groping in its management of work force planning.

In absence of a work force planning system, the District's departments and agencies vary in their attempts to determine staffing needs. Corrections has a work force analysis office built into its organization which develops and updates work standards using work measurement. Other departments perform some form of work measurement and have standards but do not go through a disciplined staffing needs development process. Others have no standards and do not perform work measurement as encouraged by the Office of Management and Budget Circular A-11 and recommended by the Nelsen Commission.

The District develops its budget by an incremental process that does not include adequate work force planning. This system is keyed primarily to permanent full-time positions paid for by appropriated funds. Few if any of these positions are justified in the process. In addition, the process omits positions paid for under Federal grants and the part-time and temporary positions.

Finally, we believe the ceilings imposed by the Mayor and City Council are not effective tools for controlling the size of the work force since they are arbitrarily determined and applied without regard to skill, grade level, and work priority.

Implementation of a work force planning system using method studies and work measurement will require additional funding and staffing and time for gradual transition. In selecting the degree of precision in work measurement from possibilities such as those listed in appendix III, management should carefully assess costs against achievable benefits.

Finally, we believe that a credible and reliable system will obviate the need to control staffing levels by arbitrary ceilings and forced reductions. The staffing plans should provide useful information for zero-based budgeting which may be implemented by some of the District operations. We believe that a work force planning system could be a step in making the Nation's capital a model for other cities and local governments to follow in staff planning.

AGENCY COMMENTS

Although we did not solicit written comments, we provided opportunity for District officials to study the report and discuss it with us. The officials did not disagree with or take exception to our conclusions and recommendations. They agreed that no records were maintained reflecting the interface between work load and work force. However, they commented that:

- Staffing requirements calculated by work measurement techniques might show that some activities were understaffed instead of overstaffed.
- District officials did not ignore the recommendations of the Nelsen Commission insofar as they studied various strategies, including the one we recommended, and decided that it could not realistically be implemented considering resources needed and constraints involved.
- The District government analyzes staffing needs, although informally, during its budget considerations and that managers know how many employees they need based on experience and judgment.
- Staffing levels in many cases are dictated by collective bargaining, court edicts, professional standards, or congressional direction, and work measurement would not cause staffing level changes in all functions.

--Through the District's continuous concern and effort, the size of the District's work force has been steadily declining.

OUR EVALUATION

While we recognize some efforts have been made to relate portions of work load to staffing needs, we are concerned that disciplined procedures have not been applied to establish work force requirements throughout the District government according to the attributes shown in appendix II. We consider that the opportunities for improvement are great and that the costs of data collection and analysis must be borne to achieve the benefits.

This is consistent with our conclusions reported as a result of prior reviews of selected segments of the D.C. government. For example, we have recommended that the District Public Schools improve the accuracy and reliability of their resource management system. 1/ We have also recommended that the District Performance Monitoring System incorporate techniques for continuing analysis to plot trends and determine effects of one measure on another in order to improve performance and productivity. 2/

RECOMMENDATIONS

We recommend that the Mayor direct his staff to set up a work force planning system. The system should state the goals and responsibility of each department, agency, and office, including the Executive Office of the Mayor, and provide a detailed reporting format and criteria. The attributes of a model system as set forth in appendix II should be used as a guide. We believe the departments and agencies should annually submit a staffing plan to the Executive Office of the Mayor as the Nelsen Commission recommended. To be meaningful the plans should identify the expected workload and the number of persons needed by job skill, grade, and organization. It should also show the number needed for support and supervision as well as for those needed

1/"What Can Be Done To Improve the Management of Money and Staff?--District of Columbia Schools" (GGD-75-35, June 16, 1976).

2/"Resource Management Can Be Improved by Greater Use of Productivity Techniques" (GGD-75-5, April 16, 1975).

directly for the primary work. We believe the plan should be in detail at the bureau level and summarized at department and higher levels. We believe that staffing plans should show the essential work to be performed by the full-time permanent work force including positions to be paid with District appropriations as well as those positions to be paid from Federal grants and other sources. Essential work to be performed by part time, seasonal or contractor employees should be identified in an addendum to the report and related to a specific level of effort.

Another addendum might be necessary to summarize the number of employees expected to be hired under special employment type programs such as CETA and the summer youth program. This addendum should identify the number of those employees doing essential work which should be done by the permanent work force and explain why. It should also identify those doing meaningful, constructive work for which the programs were intended.

We believe the work force planning system should include goals for performing method studies and work measurement. We believe work measurements in combination with method studies are necessary to determine the number and types of employees needed to perform specified work of acceptable quality. District departments are presently performing some work measurement and undertaking method studies; however, we believe such efforts should be more systematic and tied into a staff requirements determination process. The work measurement and method study results should be translated into documented staffing standards. Ultimately the program should cover as many employees as possible.

We also recommend that the Mayor prepare a plan for implementing a work force planning system program. The costs of the program should be carefully assessed against achievable benefits. The plan should include a reasonable, supportable assessment of staffing and funding resources needed for the program plus a realistic strategy and timetable for implementing it. The plan should be presented to congressional oversight and appropriations committees for review and should include legislative proposals which the Mayor's office may feel is necessary to implement the program.

PRIOR GAO REPORTS

The General Accounting Office in a number of reports has pointed out the need for agencies to develop more reliable methods for estimating their personnel requirements. Many of these reports pointed out that improvements are needed in the measurement systems used by agencies in determining personnel requirements.

1. "Development and Use of Military Services Staffing Standards: More Direction, Emphasis, and Consistency Needed" (FPCD-77-72, Oct. 18, 1977). This report discusses the need for ways to measure work that are reliable and useful to the budget process. Staffing standards based on the concept of work measurement offer the potential to do this. Except for the Air Force, the military services have been slow in developing staffing standards, let alone using them.
2. "The Work Measurement System of the Department of Housing and Urban Development Has Potential But Needs Further Work to Increase Its Reliability" (FPCD-77-53, June 15, 1977). This report discusses the need for more objective and systematic ways for Government agencies to reliably estimate their personnel requirements.
3. "Personnel Ceilings--A Barrier to Effective Manpower Management" (FPCD-76-88, June 2, 1977). This report discusses personnel ceilings and suggests that, with direction and guidance, agencies could develop methods for preparing sound estimates of minimum manpower requirements to accomplish authorized programs and functions.
4. "Determining Requirements for Aircraft Maintenance Personnel Could Be Improved--Peacetime and Wartime" (LCD-77-421, May 20, 1977). This report discusses the manpower determination processes used by the various military services, which are based on independently developed systems and assumptions, rules, and policies. In many cases, manpower factors and data used in the individual manpower determination system are questionable, inaccurate, or outdated.
5. "Improvements Needed in Defense's Efforts to Use Work Measurements" (LCD-76-401, Aug. 31, 1976). This report points out that the military services approach work measurement efforts with different interests; assign

different priorities to these efforts; provide varying degrees of independence to the work measurement staffs; and define the universe for potential application of work measurements differently.

6. "Major Cost Savings Can Be Achieved by Increasing Productivity in Real Property Management" (LCD-76-320, Aug. 19, 1976). This report discussess problems in the system the military services use to measure and evaluate productivity of their labor forces in real property maintenance. These problems have caused the services to fall short of the achievements possible with an adequate work measurement system.
7. "Navy Aircraft Overhaul Depots Could Be More Productive" (LCD-75-432, Dec. 23, 1975). This report discusses the lack of quality in the work measurement systems at Navy aircraft overhaul depots.

ATTRIBUTES OF AN EFFECTIVE STAFFING STANDARDSSYSTEM IN DETERMINING AND JUSTIFYINGPERSONNEL REQUIREMENTS

The development and implementation of an effective staffing standards program must be well defined and properly controlled. Factors that should be considered are

- staffing standards development,
- workload determination,
- application of staffing standards,
- management and organizational structure, and
- tie-in with the budget process.

STAFFING STANDARDS DEVELOPMENT

Staffing standards developed at the functional work center level should have the following minimum characteristics.

- The scope of the function down to and including the task level should be identified and defined.
- Work data should be identified and defined.
- Staff-hour data should be collected through accepted industrial engineering work measurement techniques (timestudy, work sampling, analysis of past performance, and operational audit).
- The standards should specify the required skill levels (apprentice, journeyman) and occupational specialties (teacher or truck driver). Standards should also include all personnel associated with the function studied (training, maintenance).

Procedures for developing both work center and summary-level standards should be explicit and applicable to all organizations developing standards. A formal procedure should also exist for issuing the standards development procedures to all organizations involved. Such procedures should cover the required quality control of the data collection and computations used in developing standards and

should define the variables to be considered, such as length of work week, allowances for fatigue, delay, and training. Documented explicit procedures for keeping standards current should also exist.

WORKLOAD DETERMINATION

The sources of workload data for applying staffing standards should be clearly identified and defined. These sources should be as consistent as possible throughout. In addition, the methodology for projecting future work load should be clearly documented. Also, explicit documented procedures should exist for reviewing all work load data for accuracy prior to applying standards.

APPLICATION OF STAFFING STANDARDS

Each department and agency should be able to justify its support personnel requirements on the basis of applying staffing standards to the maximum extent feasible. Inherent in this overall capability should be the ability to identify the fixed and variable personnel requirements as well as the interrelationships among the variable personnel requirements.

MANAGEMENT AND ORGANIZATIONAL STRUCTURE

Proper organizational placement of the staffing standards personnel and good management of a standards program are essential to insure credibility and consistency in policy, procedures, and quality. The organizational structure used to determine personnel requirements should be documented to reflect, as a minimum, the functions performed at each major organizational level, and an organizational diagram showing the levels of responsibility for personnel requirements. Sufficient numbers of qualified personnel should be used to develop staffing standards and determine requirements. Proper management of a standards program also requires a plan for developing, reviewing, and updating standards and programming factors. The plan should reflect standards coverage by function, milestones for improved coverage in applicable functions, and milestones for reviewing and updating standards. The cost effectiveness of the standards program should be identified. This would include savings in approved positions resulting from standards implementation and cost avoidances resulting from the existence of staffing standards.

TIE-IN TO BUDGET PROCESS

Work center staffing standards should be aggregated into progressively higher level standards so that they can be used to substantially support budgeted personnel requirements. A direct traceable relationship should exist between requirements reflected in the District's programs and budgets and those requirements derived through application of staffing standards to enable the Congress to better understand the basis for requirements.

WHAT IS WORK MEASUREMENT?

The term "work measurement" means the collection of data on staff-hours or costs and production by work units, so that the relationship between output and staff-hours or costs can be calculated and used as the basis for personnel planning, scheduling, production, budget justification, performance evaluation, and cost control.

Various methods exist for developing staffing by using work measurement. These are usually in two categories-- engineering and nonengineering.

Staffing standards developed using engineering techniques are based on formal analysis and measurement of work elements that make up a particular job. In industrial situations these techniques are most useful because work is usually of high volume, repetitive, and results in a tangible product. Following are examples of engineering techniques.

--Timestudy. This technique aims at developing staffing standards based on realistic but efficient performance by worker. Under this method, each job is broken down into work elements. Then trained technicians observe and time employees performing these tasks to determine the amount of time it should take to complete each step efficiently. In addition, technicians also measure the volume of completed work and unproductive time. Later, standards are developed from this data.

--Work sampling. This is similar to the timestudy method except that it uses statistical sampling instead of a thorough analysis of each work element. Generally, this method involves (1) selecting at random certain work elements of a particular job assignment and (2) measuring the time spent and volume of work done for these elements during the established period of observation. As in timestudy, this data is later analyzed to estimate the amount of time necessary to perform each task. Later the various tasks are combined to develop the staffing standards.

Nonengineering techniques are usually based on past performance or technical estimates. These standards tend to be less reliable but less expensive than their engineering counterparts. Specifically, nonengineering techniques rely on managerial judgment and historical analysis of past performance of particular work to develop staffing standards.

These standards assume that past performance has been good and that future conditions will be the same. Nonengineering techniques are more applicable to service-related work which involves nonrepetitive, irregular functions or which result in intangible products. The following are examples of nonengineering techniques used in developing staffing standards.

- Historical estimates. This technique's goal is to develop staffing standards using data about the way work has been done in the past. This is done by relating time spent to work produced. Staffing standards developed under this method are based usually on both mean performance in the past and managerial judgment. Historical estimates are generally easy to compute and give extensive work measurement at little cost.

- Technical estimates. This method uses technical experience to develop staffing standards. Basically, technical estimates are derived by breaking jobs into elements or stages and having technically qualified persons estimate how long each job element should take. Estimates may be based on the judgment of one person, such as a supervisor. Or they may be developed by a panel of knowledgeable people who estimate time requirements and through discussion reach a consensus. The job element estimates are then added to obtain the standard time.

Other techniques may also be used for developing staffing standards. But these are some of the most common. In addition, the choice of work measurement techniques for any given situation depends on the job measured. Those choosing should consider the costs and long-term benefits of engineering versus those of nonengineering techniques before making a decision.

PERFORMANCE MONITORING SYSTEM

The District of Columbia set up a Performance Monitoring System (PMS) in January 1976. The system was designed to measure city services and provide more information to District citizens about program performance and service improvements. The Resource Management Improvements Division has primary responsibility for administering the PMS. That office has 13 full-time, permanent employees. However, program managers and other employees of the various District agencies are required to participate.

The PMS mainly involves program tracking, but special productivity improvement study projects are also performed. Tracking in PMS involves analyzing city programs to find out what they are doing. The steps in tracking include

- developing measures to evaluate program performance,
- setting targets for each measure,
- reporting on actual performance, and
- reviewing the performance and acting to improve it.

Agencies may begin their own improvements, or they may request specialized or intensive improvement action by OBMS.

In fiscal year 1977, 64 programs from 13 agencies participated in PMS tracking and special projects. Program participation by OBMS is limited to providing enough technical assistance to the agencies that need it. Programs selected are usually of high priority and may come from the Mayor, the City Council, or the public. In addition, they are programs which can benefit most from productivity improvement techniques.

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