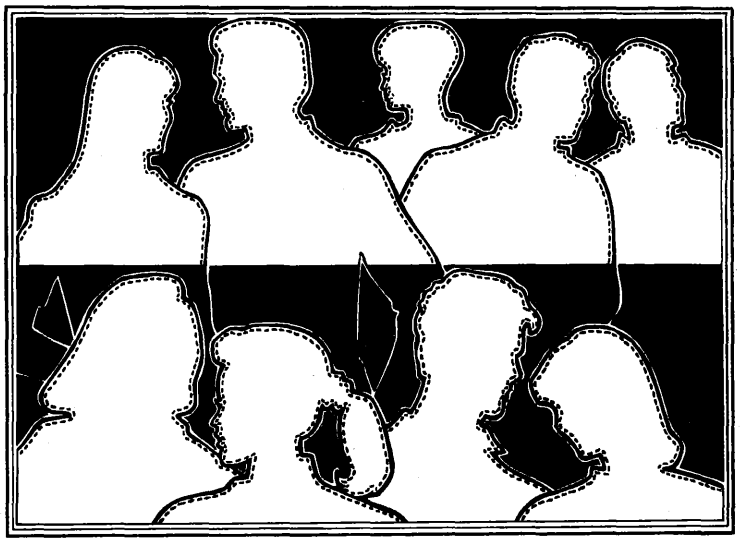
OFFICE OF LEGISLATIVE OVERSIGHT

REPORT 00-3

APPROACHES TO INFORMATION TECHNOLOGY ORGANIZATION AND STAFFING IN COUNTY GOVERNMENT



July 25, 2000

EXECUTIVE SUMMARY AND OLO COMMENTS AND SUGGESTIONS

Executive Summary

This OLO report presents information about the organization and staffing of the information technology (IT) responsibilities in Montgomery County Government and seven other counties. OLO compiled information from these jurisdictions about the general organization and structure of IT responsibilities in their governments, the distribution of staff performing IT functions, and the extent to which IT functions are contracted out.

The seven jurisdictions are: Hennepin County, Minnesota; Baltimore County, Maryland; Fairfax County, Virginia; Miami-Dade County, Florida; Prince George's County, Maryland; Indianapolis-Marion County, Indiana; and Oakland County, Michigan. These jurisdictions are similar or larger than Montgomery County, most have progressive IT reputations, their IT organizations perform functions similar to Montgomery County's IT department, and each organizes their IT staff differently.

The first chapter of the report describes the project scope and methodology in more detail. The second chapter discusses IT organization models in the public sector and describes major IT functions generally performed by public sector IT employees. The third chapter presents summaries of responses to survey questions and summary tables and charts of information collected about IT organization and staffing in the jurisdictions. The remainder of the report contains detailed information about each of the selected jurisdictions, including how they organize their IT staff and accomplish their IT functions.

Because of differences in the ways the jurisdictions organize their IT staff, few direct comparisons can be made or best practices identified. However all the selected jurisdictions perform similar IT functions. These jurisdictions carry out their functions in a variety of ways, i.e., using different levels of centralized IT staff, departmental staff, and outsourcing. Montgomery County can draw inferences from these variations and investigate promising approaches to distributing responsibility for delivering IT services.

This study is intended to serve as a companion to the Office of Human Resource's (OHR) study of Montgomery County IT recruitment, retention, career development, and training needs. In addition, two subcommittees of the Information Technology Policy and Coordinating Committee are conducting hiring and retention studies, which should serve as companions to the OHR and OLO reports.

OLO Comments and Suggestions

- Montgomery County and several of the selected jurisdictions seem to be organizationally in flux. Part of the reason relates to high customer expectations resulting from rapid changes in technology. Other reasons relate to a need to update or upgrade IT systems, applications, and infrastructure to provide more efficient or effective response. The IT organizations should benefit from these periodic re-evaluations and reorganizations, which may be desirable as technology continues to evolve at a rapid pace.

- Montgomery County may find it desirable to examine each IT function and determine how best to accomplish it, i.e., what combination of central, decentalized, and outsourced effort. Then determine the number and kind of staff needed for each function, including IT professionals, contract administrators, and other support staff. This exercise would provide a basis for organizing and staffing IT activities.

- Montgomery County places a high percentage responsibility in the decentralized departments for Internet and Intranet site management. However, many of the departments (especially the smaller ones) do not have significant expertise to accomplish the needed tasks. It may be worthwhile to examine the feasibility of creating site managers to serve several departments or to contract out for assistance.

- Montgomery County has not yet finalized how best to distribute responsibility for the e-commerce function among in-house staff and outsourcing. Since there is an abundance of expertise in the private sector, the County should continue to examine contractual relationships for portions of the function that require large investments in infrastructure. Both Oakland and Fairfax counties could be contacted for information about their experiences with contracting out portions of e-commerce. (Note that the initial stage of e-Montgomery was launched on July 18, 2000.)

- The selected jurisdictions reported that governments are at a disadvantage in attracting and retaining highly qualified IT personnel in the current economy. Montgomery County may want to survey certain classes of their IT professionals (such as programmers) to determine what the County can provide to attract and retain these professionals.

OLO Report 00-3

APPROACHES TO INFORMATION TECHNOLOGY ORGANIZATION AND STAFFING IN COUNTY GOVERNMENT

July 25, 2000

REPORT CONTENTS

I AUTHORITY, SCOPE, METHODOLOGY, AND ACKNOWLEDGMENTS 1

II IT AND THE PUBLIC SECTOR 5

III SUMMARIES AND OBSERVATIONS 7

IV MONTGOMERY COUNTY, MARYLAND 41

V HENNEPIN COUNTY, MINNESOTA 72

VI BALTIMORE COUNTY, MARYLAND 101

VII FAIRFAX COUNTY, VIRGINIA 117

VIII MIAMI-DADE COUNTY, FLORIDA 135

IX PRINCE GEORGE'S COUNTY, MARYLAND 159

X INDIANAPOLIS-MARION COUNTY, INDIANA 173

XI OAKLAND COUNTY, MICHIGAN 185

ATTACHMENT A

Montgomery County, Maryland Public Works & Transportation Databases..... A-1

I AUTHORITY, SCOPE, METHODOLOGY, AND ACKNOWLEDGMENTS

A. Authority

Council Resolution No. 14-242, FY 2000 Work Program of the Office of Legislative Oversight, adopted August 3, 1999.

B. Scope

This OLO report presents information about how a number of jurisdictions organize and staff their information technology (IT) functions. OLO compiled information from a sample of jurisdictions about the general organization and structure of IT responsibilities in their governments, the staffing of IT functions, and the extent to which IT functions are contracted out.

For purposes of this report, Information Technology means the acquisition, processing, storage, and dissemination of information in many forms (digital, audio, video, and other modes not yet conceived). The dissemination is accomplished through a combination of computers, telecommunications, networks, electronic devices, and other infrastructure.

This study is intended to serve as a companion to the Office of Human Resource's (OHR) study of Montgomery County IT recruitment, retention, career development, and training needs. In addition, two subcommittees of the Information Technology Policy and Coordinating Committee are conducting hiring and retention studies, which should serve as companions to the OHR and OLO reports.

C. Methodology

Joan M. Pedersen, OLO Program Evaluator, directed this project. Craig Meklir, OLO Research Technician, conducted primary research for the project and prepared major portions of the report. David Cohen of OLO participated in finalizing the report. Activities for the project included:

- researching articles, academic reports and studies, publications, and the Internet regarding governmental management of information technology resources;
- coordinating information with Council staff and other County offices and groups.
- developing criteria to select about twenty city and county governments similar or larger in size than Montgomery County with progressive IT reputations;
- collecting initial data from selected jurisdictions (organization charts, internal studies, and other information for understanding each jurisdiction's IT organization);
- evaluating initial data and narrowing jurisdiction selection to those with IT organizations that differed from Montgomery County's structure;
- developing additional questions and gathering data from the final list of jurisdictions about their IT management and organizational structures (services they provide, size and structure of their IT organization, extent they contract out activities, etc.);

- using a variety of mediums to research and gather additional information about the selected jurisdictions and their IT organizations;
- conducting site visits to tour central IT operations and interview staff in local jurisdictions (Montgomery, Baltimore, and Fairfax counties);
- compiling data, creating charts and tables, writing summaries, and coordinating report content with IT managers in each of the selected jurisdictions.

For the purposes of this project, OLO and Council representatives selected about 20 jurisdictions with similar or higher populations and median household incomes as Montgomery County. For Phase 1 of the project, OLO contacted each jurisdiction and obtained general information about their IT organizations.

Based on information gathered in this initial stage, OLO and Council staff then selected several jurisdictions whose IT departments perform functions similar to Montgomery County's IT department but organize themselves differently. Final selection for Phase 2 of the project included jurisdictions with these diverse IT organizational characteristics: totally centralized IT staffing, highly centralized IT staffing, highly decentralized IT staffing, and low IT staffing with most IT functions contracted out. (Note that OLO did not locate any jurisdiction with a completely decentralized IT organization.)

OLO contacted IT administrators and staff in the selected jurisdictions to obtain more detailed organizational information. This report includes data collected from the following jurisdictions:

Montgomery County, Maryland (hybrid: 52% centralized/48% decentralized)
Hennepin County, Minnesota (hybrid: 43% centralized/57% decentralized)
Baltimore County, Maryland (hybrid: estimated 69% centralized/31% decentralized)
Fairfax County, Virginia (hybrid: estimated 72% centralized/28% decentralized)
Miami-Dade County, Florida (hybrid: percentages not determined)
Prince George's County, Maryland (99+% centralized with majority outsourced)
Indianapolis-Marion County, Indiana (99+% centralized with majority outsourced)
Oakland County, Michigan (100% centralized)

D. Acknowledgments

Throughout this project, OLO staff coordinated and shared information with Elaine Truman and Maurice Martinez in the Office of Human Resources and Sherwin Collette of the Information Technology Planning and Coordinating Committee. In addition, Aron Trombka and Marlene Michaelson of Council staff played key roles in developing the scope of the project and selecting the sample jurisdictions.

OLO appreciates the efforts of John Rafferty Dianne Lemanski, Barbara Gerrard, and Sonny Segal in the Department of Information Systems and Telecommunications (DIST). In addition, we thank DIST staff for conducting site tours of the County's information technology operations.

OLO also sincerely appreciates the assistance received from the various IT staff, managers, and directors in both the initial and finally selected jurisdictions. We especially thank IT administrators in Fairfax County, VA and Baltimore County, MD for the site tours and personal interviews they arranged for OLO staff.

E. Report Organization

Chapter II, IT and the Public Sector.
Discusses IT organization models in the public sector, and describes major IT functions generally performed by public sector IT employees.

Chapter III, Summaries and Observations.
Presents summary tables and charts of selected information about the IT organization and staffing in the jurisdictions and OLO's observations.

The remaining eight chapters present information about Montgomery County and the selected jurisdictions, and how they organize their IT staff. A separate chapter for each of the selected jurisdictions presents general information about the jurisdiction, its overall IT organization, centralized and decentralized IT staff, and functions performed by the IT employees. Below is a listing of each chapter with a brief description of the jurisdiction and its IT organization.

Chapter IV, Montgomery County, Maryland.
Montgomery County is adjacent to Washington, D.C., encompasses 494 square miles of land area, and has a population of 855,000 residents. Montgomery County Government has a hybrid IT organization (52% centralized), with 107 full-time and 4 part-time IT positions approved for the central IT department, and 100 full-time and 5 part-time IT positions approved for other departments and offices.

Chapter V, Hennepin County, Minnesota.
Hennepin County is located in the mid-east portion of the State of Minnesota, encompasses 611 square miles of land area, and has a population of 1.1 million residents. Hennepin County has a hybrid IT organization (43% centralized), with 197.0 full-time equivalent IT employee positions approved for the central IT department, 14.0 approved and centralized in the Sheriff's Office, and 281.8 approved for other departments and offices.

Chapter VI, Baltimore County, Maryland.
Baltimore County is located in the center of the State of Maryland, encompasses 612 square miles of land area, and has a population of 724,675 residents. Baltimore County has a hybrid IT organization (69% centralized), with 74.5 full-time equivalent IT employee positions approved for the central IT department, 35.0 approved and centralized in the Budget and Finance Office, and approximately 65.0 full-time equivalent IT positions approved for other departments and offices.

Chapter VII, Fairfax County, Virginia.
Fairfax County is located in northern Virginia and is adjacent to Washington D.C. It encompasses 399 square miles of land area and has a population of 966,137 residents. Fairfax County has a hybrid IT organization (72% centralized), with 260.0 staff-year equivalent IT positions approved for the central IT department and approximately 100.0 staff-year equivalent IT positions approved for other departments and offices.

Chapter VIII, Miami-Dade County, Florida.
Miami-Dade County is located on the eastern shore of Florida, contains 2,000 square miles of land area, and has a population of 2.0 million residents. Miami-Dade County has a hybrid IT organization (no estimated percentages for centralized/decentralized), with 500 full-time equivalent IT positions approved for the central IT department and an unknown number of IT positions approved for other departments and offices.

Chapter IX, Prince George's County, Maryland.
Prince George's County is adjacent to Washington D.C. and Montgomery County, Maryland. It encompasses 488 square miles of land area and has a population of approximately 777,811 residents. The organization of IT classified County employees in Prince George's County is 94% centralized, with 17 full-time equivalent IT employee positions approved for the central IT department, and one full-time equivalent IT employee position located in the Police Department. While County IT classified staff are 94% centralized, the true IT effort in the County is essentially 100% centralized because the County contracts with a private sector IT firm, authorizing 98 IT professionals to operate out of a centralized government facility.

Chapter X, Indianapolis-Marion County, Indiana.
Indianapolis-Marion County is located in the City of Indianapolis. It encompasses 402 square miles of land area and had a population of 813,405 in 1998. The organization of IT classified County employees in Indianapolis-Marion County is 88% centralized, with 14 full-time equivalent IT employee positions approved for the central IT department, and two full-time equivalent IT employee positions approved for other departments and offices. While County IT classified staff are 88% centralized, the true IT effort in the County is essentially 100% centralized because the County (like Prince George's County) contracts with a private sector IT firm to operate out of a centralized government facility.

Chapter XI, Oakland County, Michigan.
Oakland County is located in Southeastern Michigan, encompasses 900 square miles of land area, and has a population of 1.2 million residents. Oakland County has a fully centralized IT organization (100%), with 148 full-time equivalent IT positions approved for the central IT department.

II IT AND THE PUBLIC SECTOR

A. IT Organization in the Public Sector

No generally accepted standards exist for organizing and staffing IT functions, partly due to the speed at which new technologies and IT functions emerge. Basically, three IT organization and staffing models exist: centralized, decentralized, and hybrid. A centralized IT organization grants the IT department total responsibility for all IT activities throughout the jurisdiction. A decentralized approach grants the individual departments responsibility for maintaining and operating databases and technology infrastructure within each department. A hybrid approach includes both a central IT department and significant IT staff in other departments throughout the jurisdiction.

Many jurisdictions contract with the private sector to augment their existing staff or to acquire services for entire IT functions. All the jurisdictions selected for this study utilize contractual services. Some of the jurisdictions we selected contract to augment their IT staff and others contract for one or more of their IT functions. None outsource all of their IT functions. Recently San Diego County eliminated its entire IT organization and contracted for all IT services. Although San Diego County was not selected for this study, information about the County's contracting effort is available in OLO.

B. Government Sector IT Systems, Equipment, and Functions

Common IT systems and equipment in the public sector include personal computers, radios, telephones, network support, e-mail, geographic information systems, and large main-frame based systems. Descriptions of major IT functions performed by public sector employees include:

- **IT Consulting** – delivers IT solutions to business problems; includes studying alternatives and emerging technologies.
- **Systems Development** – determines requirements for, analyzes the feasibility of, and designs, programs, tests, and implements computerized information systems; integrates custom-coded programs, commercial off-the-shelf packages, centralized and decentralized departmental computing resources, and contract services to meet the functional requirements.
- **Systems Maintenance** – maintains existing computerized information systems by making program and parameter modifications to correct errors; accommodate changing legal, regulatory, and functional requirements; and/or to adapt systems to conform with changes in the hardware and software environment.
- **Desktop Computer Support** – provides acquisition, installation, upgrades, moves, maintenance, asset management, and disposition of desktop computer hardware and software.
- **Geographic Information Systems (GIS)** – designs and implements GIS applications; maintains the accuracy of the geographic base file, and participates in the development and maintenance of the planimetric and property databases.

- **Internet** – designs and implements Internet Web pages and applications; installs and maintains Internet infrastructure (e.g., servers, firewalls); manages Web page content; trains end-users; and develops policies and procedures.
- **Intranet** – designs and implements Intranet pages and applications; installs and maintains Intranet infrastructure; and manages Intranet content.
- **E-Commerce** – designs and implements applications to accomplish Internet business transactions; installs and maintains E-Commerce infrastructure.
- **Local Area Network (LAN)** – designs, installs, and maintains data communications network that serves users within a confined geographic area (i.e., floor, building, campus); includes cabling, transport protocol, and network devices.
- **Wide Area Network (WAN)** - designs, installs, and maintains County-owned data communications network that serves users within a wide geographic area; includes cabling, transport protocol, and network devices.
- **Server Administration** – manages network servers, including network security, installing new applications, software upgrades, monitoring daily activity, storage management, and providing routine backups; also includes systems programming on minicomputers.
- **Help Desk** – responds to end-user requests for help with information technology equipment, systems, or applications (e.g., desktop computers, mainframe, networks, telephones, voice mail, computer applications); includes both enterprise and departmental IT systems.
- **Computer Operations** – operates data center 24 hours, 7 days); processes job requests, assists users linked to systems, and performs backup and recovery operations.
- **Systems Programming** – ensures efficient performance of the mainframe computer; provides database and security administration; integrates vendors' software; accomplishes software replacements or upgrades; provides capacity planning; and provides technical advice to systems analysts, applications programmers, and computer operators.
- **Telephone Operations** – installs, moves, and modifies telephones and voice mailboxes; installs cabling; monitors operation of telephone systems; handles telephone billing and call accounting; provides end-user training; and develops policies and procedures.
- **Telephone Maintenance** – maintains telephone systems, voice mail systems, associated network equipment, and telephone sets.
- **Radio Operations** – configures and installs radios; monitors operation of the County's radio communications systems; and provides end-user training.
- **Radio Maintenance** – maintains County-owned radios and radio communications systems used primarily by public safety departments.

III SUMMARIES AND OBSERVATIONS

A. Profiles and Answers to Selected Questions

This section contains summary information about the jurisdictions selected for OLO's inquiry, information about their IT organizations, and answers to questions about how they organize, staff, and manage their IT responsibilities.

The table on page 8 presents general information about each jurisdiction, including size, population, median household income, and major employers.

The table on page 9 presents an FY 2000 overview of the IT organizations in each of the selected jurisdictions. The table includes information about the central IT department budget, the centralized, decentralized, and total IT positions, and the departments having five or more IT positions.

As part of this project, OLO asked each jurisdiction 21 questions. The report contains a separate chapter for each jurisdiction, which contains the jurisdiction's responses to each of the questions. The questions and responses are organized under five headings: General/Organization, IT Staffing, Evaluation, Outsourcing, and IT Functions.

The series of questions and answers beginning on page 10 present OLO's summaries of the various jurisdictions' responses to *many* of the questions. Each question carries the same number in this summary as it carries in the later chapters of the report.

Profiles of the Selected Counties

	Montgomery MD	Hennepin MN	Baltimore MD	Fairfax VA	Miami-Dade FL	Prince George's MD	Indianapolis-Marion IN	Oakland MI
County Population	855,000 (2000)	1,082,560 (2000)	724,675 (2000)	966,137 (2000)	2,100,000 (2000)	777,811 (1998)	813,405 (1998)	1,200,000 (2000)
County Area (square miles)	494	611	612	399	2,000	488	402	900
County Median Household Income	$57,464 (1998)	$43,709 (1998)	$48,600 (1997)	$72,000 (1997)	$28,000 (1995)	$54,281 (1998)	$33,695 (1995)	$57,000 (1997)
Major Employers	Public Schools Ntl. Institute of Health County Government Marriott International Adventist Health Care U.S. FDA Giant Food Inc. Bell Atlantic U.S. NOAA	State Government University of Minnesota 3M Company Northwest Airlines Dayton Hudson Corp. Honeywell, Inc. West Info. Publishing Target	AAI Corporation Engineering Services Integrated Logistics Blue Cross/Shield Sweetheart Cup Co. Foodarama, Inc. N.W. Health Systems Greater Balt. Medical Ctr.	Public Schools Kaiser Permanente County Government Mobil Corp. Computer Sciences Corp. Science Applications Int. TRW, Inc. Inova Health Services Northern Telecom, Inc.	American Airlines University of Miami BellSouth Burdines Dept. Stores Florida Power & Light Baptist Health Systems Mt. Sanai Med. Ctr. K-Mart Publix Super Markets	Giant Food, Inc. Dimensions Health Corp. Safeway Stores, Inc. Bell Atlantic Corp. United Parcel Service Shoppers Food Whse. Southern MD Hospital Hughes STX	Eli Lilly & Company Conseco Clarion Health Bank 1 Indianapolis Allison Transmission United Airlines Federal Express Navistar Intern. Trans.	General Motors Corp. Daimler Chrysler Corp. Beaumont Hospital Ford Motors EDS Ameritech Publications Blue Cross/Blue Shield Modern Engineering
FY 2000 Operating Budget	$2.4 billion	$1.5 billion	$1.7 billion	$3.5 billion	$2.9 billion	$1.4 billion	$710.4 million	$443.0 million
Employees Supported by IT Department	8,205 Positions 7,983 FTE	10,960 FTE	8,162 FTE	11,020 SYE	26,000 Positions	5,589 FTE	6,326 Positions	4,500 FT 100 PT

Key: FT = Full-Time FTE = Full-Time Equivalent
PT = Part-Time SYE = Staff-Year Equivalent

Profiles of the IT Organization in the Selected Counties - FY 2000

	Montgomery MD	Hennepin MN	Baltimore MD	Fairfax VA	Miami-Dade FL	Prince George's MD	Indianapolis-Marion IN	Oakland MI
Central IT Department Operating Budget	$16,276,340	$30,840,815	$6,929,517	$26,870,000	$69,800,000	$7,600,000	$24,288,424	$20,630,661
Total IT Positions	207.0 FT 9.0 PT	492.8 FTE	159.5 FTE (estimated)	360.0 SYE (estimated)	Unknown	18.0 FTE (plus 98 centralized vendor staff)	16.0 FTE (plus about 100 centralized vendor staff)	142 FTE
Centralized IT Positions	107.0 FT 4.0 PT	211.0 FTE	109.5 FTE	260.0 SYE	500 positions	17.0 FTE (plus 98 centralized vendor staff)	14.0 FTE (plus about 100 centralized vendor staff)	142 FTE
Decentralized IT Positions	100.0 FT 5.0 PT	281.8 FTE	50.0 FTE (estimated)	100.0 SYE (estimated)	Unknown	1.0 FTE	2.0 FTE	None
Departments Having 5 or More IT Positions	Public Works & Transportation Health & Human Services Police Libraries Finance Liquor Control Circuit Court	Adult Services Community Health Economic Assistance Training & Employment Assistance. Children & Family Services (see note below) Community Corrections County Attorney District Court Public Libraries Medical Center Metro. Health Plan Public Works Sheriff Taxpayer Services	Police Environ. Protection Social Services Budget & Finance	Information Not Provided	Aviation Fire Police Environ. Resources Solid Waste Transit Water and Sewer Public Works	None	None	None

Key: FT = Full-Time FTE = Full-Time Equivalent
PT = Part-Time SYE = Staff-Year Equivalent

Note that the following Hennepin departments are Health & Human Services related: Adult Services, Children & Family Services, Economic Assistance, Training & Employment Assistance, and Community Health

Summaries of Responses to Selected Questions

General/Organization

1. ***Who are the main users of your government's IT services?***

   8 Responding IT Departments

   Most jurisdictions reported their primary customers are the employees in the various government departments, offices, and agencies. Some included the public/citizens as secondary customers or as the primary customers of their public access systems. For instance, Miami-Dade County mentioned that they provide public records on-line to 500 subscribers to their public access system.

   Baltimore County identified their departments of Finance, Police, Courts, and Health and Human Resources as heavy users of IT services. Fairfax County listed the same departments plus their departments of Human Resources and Planning and Land Development as heavy IT service users. Oakland County reported that cities, townships, villages, and County departments are their primary users.

   Montgomery County reported that their emphasis is shifting from the traditional department customer base to a the broader "Montgomery Community," which includes citizens, residents, businesses, community groups, other governments, and other who live, work, visit or interact with Montgomery County."

2. ***Not summarized.***

3. ***Would any organizational changes improve the quality of your IT services, and what are they?***

   8 Responding IT Departments

   All respondents identified areas of improvement except for Oakland County, who reported none for the time being. Some jurisdictions reported actions they are implementing, and others identified changes that might result in improvements. For example, Montgomery County said that adding staff and building up management and administrative support to technical functions would improve the quality of the IT services they can provide.

   Baltimore County mentioned more customized training, better support and business assistance in the application development process. Hennepin County recently implemented a new competency center (the Project Support Office) to increase their focus on project management, and the jurisdiction plans to reorganize their Development Division. In addition, staff in the Hennepin IT department believe the jurisdiction would benefit from greater centralization or standardization of desktop support functions. They are surveying decentralized IT groups to determine how many IT staff are dedicated to support of desktops.

   Fairfax County will continue to adjust the organization in order to respond to priorities and better synchronize and align related functions. During FY 2001, Fairfax expects to continue centralizing their Internet e-government infrastructure, help desk, and desktop, and network support functions.

4. ***What degree of interaction occurs between central and decentralized IT staff?***

8 Responding IT Departments

Most respondents having decentralized IT staff reported a high degree of interaction between the central and decentralized staff. Montgomery County reported a high degree of interaction, especially on matters related to the computing and communications infrastructure, core business systems, desktop computer modernization, and other enterprise programs. Central IT staff also provide briefings and meetings with departmental IT staff on major programs and invite their participation in IT procurements that may affect their departments.

Fairfax County has a strong centralized IT department supporting County government. Some departments have a few IT staff that provide LAN level support and coordination with the central IT organization. There is daily interaction between the IT department and agency IT staff for routine system support, system development, project management, enterprise-wide applications, and deployment of strategic technologies. Other interactions include agency IT staffs using the central IT help desk system, and coordination of implementing the County-wide local area network and e-government standards. Agency IT staffs or business representatives also participate on IT oriented task groups and committees to determine County-wide IT system development, platform and architecture standards and advise an executive level IT steering committee on technical and policy issues.

Hennepin County indicated that a reasonably high degree of interaction among their IT groups. Local area network/desktop support staff meet twice monthly, as do managers from each IT group. The managers' group can also convene working committees to research and advise the larger group on technical and policy issues. In addition, the central and decentralized IT staff often collaborate on specific application development projects.

Miami-Dade County does not believe they have enough interaction between central and decentralized IT staff and is beginning to address the issue.

Although Prince George's County has no decentralized IT staff, their Chief Information Officer meets weekly with the contractual group that performs most of the County's IT functions. In addition, the contractual group conducts weekly staff meeting with central IT department staff, and weekly status meeting for special projects.

Indianapolis-Marion County reported that their governance structure provides for monthly meetings of IT Teams and IT Function Groups for regular interaction. Oakland County claims that interaction between centralized and decentralized IT staff is inapplicable because the jurisdiction is 100 percent centralized.

5. *What IT initiatives is the county currently working on?*

8 Responding IT Departments

The table below summarizes the responses. **(The jurisdictions perform many of the same functions – some are in the development stage and others have progressed to the maintenance stage. Note that the initiatives listed in the table below represent efforts relating to the initial development of a function/system or major on-going efforts.)**

Initiative	Montgomery	Fairfax	Baltimore	Hennepin	Miami-Dade	Prince George's	Indianapolis-Marion	Oakland
Desktop computer modernization	X			X				X
Published IT standards				X	X			
Geographic Information System (GIS)		X	X		X			
Enterprise network enhance/manage Countywide computer network	X	X		X	X			X
Public Safety 2000 (includes 800 MHz)	X							
New radio system		X						X
800 megahertz radio system			X	X	X	X		
Fiber-Net	X							X
Fiber Optic infrastructure		X					X	X
Internet development/Web site/e-mail		X	X	X	X	X		
E-commerce	X	X		X				
Intranet development				X				X
Replace Public Safety mainframe system								X
Client server applications		X			X			X
Customer relationship mgmt. program					X			
Permits system or e-permitting		X				X		
Snowtrak system						X		
Project management system							X	X
Property assessment ore real estate system		X		X			X	
Accounting package and platform							X	
Document imaging and/or management		X		X				X
Enterprise IT archictecture & infrastructure improve		X						
Criminal Justice system		X						
Human Services information system		X						
Transportation scheduling system		X						
5 other major systems		X						

As shown in the groupings above, many of the jurisdictions worked on similar initiatives during FY 2000. Montgomery initiated their desktop modernization program, while Hennepin and Oakland continued their extensive on-going efforts. Hennepin and Miami-Dade began or continued their work on developing and publishing IT standards. Baltimore and Miami-Dade began to develop GIS and Fairfax countined their extensive efforts. Montgomery, Hennepin, Fairfax, and Miami-Dade worked on countywide or enterprise network initiatives. Seven of the eight reporting jurisdictions worked on radio related initiatives. Seven of the jurisdictions initiated or continued efforts in web or web browser related initiatives, such as Internet and Intranet development, e-mail, e-commerce, Web site development or expansion, and e-commerce. Four of the jurisdicitons worked on initiatives relating to fiber optics, and six jurisdictions worked on initiatives relating to major systems applications, many to serve specific departments.

IT Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

8 Responding IT Departments

Although industry norms exist, the majority of reporting jurisdictions said they do not adhere to any fixed manager to worker ratios, but allocate staff based on perceived needs. Two categories of staffing ratios were mentioned: manager to worker, and worker to equipment type.

Miami-Dade reported a manager to worker ratio of one to twelve. No other jurisdiction reported a fixed manager-worker ratio for IT software or hardware functions.

Montgomery County staffs telephone services at the rate of one technician to every 2000 telephone lines. Baltimore staffs local area networks (LAN) at the rate of one LAN administrator for every 100 network users. Indianapolis-Marion has a service provider contract that requires a staff person for every additional 200 desktops.

Fairfax conducts periodic surveys and staffs based on requirements, service level agreements, and demand. Oakland bases their staffing decisions on available resources.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

8 Responding IT Departments

The majority of respondents shared a concern that it is difficult to attract and retain competent IT professionals because of government's relative inability to match the salaries, working conditions, and intellectual challenges of private industry. Some respondents said that adequate continuous training and differential rewards for achievement are useful techniques for retaining more highly qualified staff.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

8 Responding IT Departments

The majority of respondents reported the appropriateness of centralizing core activities that provide common resources and services to client functions and to the public and to decentralizing the services that are specific to a user department.

Montgomery County's position is to centralize those functions that relate to enterprise (cross-sections), providing infrastructure, determining standards and policies, identifying opportunities, selecting sources and applications, managing systems, and providing end-user support. For a departmental system, centralization would be limited to providing infrastructure and determining standards and policies. The remaining key functions could be decentralized.

Fairfax, Miami-Dade, Oakland, and Hennepin agreed with the essentials of the Montgomery County approach. Fairfax would decentralize business analysis and strategic planning and localized system administration. Miami-Dade would decentralize business applications. Oakland would decentralize systems development. Hennepin would decentralize business systems development and would also foster a higher level of decentralization that includes groups of departments that have overlapping clients.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

8 Responding IT Departments

All of the jurisdictions reported having staff who perform IT-related activities, but are not in official IT positions. Hennepin reported that staff in many distributed IT groups have non-IT position titles but perform IT duties. Fairfax offered that some management analysts might perform some local area network and dektop administration tasks.

Baltimore identified the existence of some administrative assistants who may informally help others with applications. Miami-Dade reported that some administrative and clerical staff engage in IT-related activities. Oakland reported that computer liaisons are distributed throughout the organization but are not reflected on the IT organization chart. Montgomery reported that a 1998 study identified 6 full-time and 52 part-time employees who were spending at least part of their time on IT activities, but did not have IT position titles.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

    8 Responding IT Departments

    The respondents generally rated their IT organizations as average to just above average in serving their customers. Notwithstanding, a majority reported some dissatisfaction with the effectiveness of their IT organization.

    Montgomery County reported that inadequate staffing and resources adversely affects the level of service they can provide and slows the pace of new development in important areas, such as interactive voice response, financial, and security systems.

    Baltimore, Hennepin, and Indianapolis-Marion counties reported dissatisfaction with their ability to manage their applications development function, and a need to develop a method to employ their resources more effectively. Miami-Dade and Prince George's counties reported a desire to improve their service response times.

11. ***How do you measure whether IT functions are carried out effectively?***

    8 Responding IT Departments

    All jurisdictions reported that they measure the effectiveness of some of their IT functions. The majority of IT department managers focus on statistical measures of equipment performance, customer satisfaction surveys, and expenditure tracking.

    Montgomery County is in the early stages of developing statistical measures of outcome and performance measures, including customer satisfaction surveys. Baltimore, Hennepin, Miami-Dade, Prince George's, Indianapolis-Marion, and Oakland reported that they are also working to establish various combinations of performance measures.

12. ***Not summarized.***

13. ***Not summarized***

14. ***What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?***

    8 Responding IT Departments

    The majority of respondents reported at least some difficulty in evaluating IT department efficiency. Significant obstacles include: lack of adequate data for performance measurement, poor definition of measurement standards, rapid pace of evolution in the IT industry resulting in few benchmarks, and the high cost or lack of adequate funding for evaluation development and implementation.

Montgomery County reported difficulties in measuring the inputs to and outputs from projects because of the resources they would need to devote to retrofitting evaluation criteria into the programs and a variety of administrative procedures in the user departments. Difficulties in evaluating service provider contracts also arose because of ambiguous or insufficiently specific performance requirements.

Fairfax discussed difficulties associated with the rapid expansion of IT use and the cost of developing a robust performance measurement system. Baltimore, Hennepin, and Indianapolis-Marion counties had trouble auditing service levels.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

8 Responding IT Departments

All respondents reported some use of contracting out or outsourcing entire functions. Prince George's, Indianapolis-Marion, and Oakland counties outsource a substantial portion of their IT functions. Montgomery County is typical of the hybrid organization in using contracting out for short duration projects, to gain an objective viewpoint, and to augment staff for temporary peak workloads. Fairfax and Baltimore counties are considering, or expect to examine the feasibility of outsourcing additional IT projects or services.

16. Not summarized

17. What benefits/problems occurred as a result of outsourcing?

8 Responding IT Departments

The majority of respondents indicated that outsourcing provides opportunities to maintain full staffing at all times, to have current expertise available for specialized projects, and to adjust staffing levels to reflect work loads. Montgomery County benefited from this approach and from the knowledge transfer from contractor staff to permanent staff. Prince George's County sometimes obtained quicker and more knowledgeable staffing than would have been available in-house. Oakland County reported increased productivity.

Problems experienced as a result of outsourcing included: lack of flexibility in scheduling contractors' work since other customers' requirements may take precedence; contractors' use of the jurisdiction's facilities to train inexperienced employees contrary to the skills inventory promised; and lack of contractor staff loyalty in responding to unusual or emergency situations.

Montgomery County IT managers expressed concerns that a contractor may fail to fully meet their contractual obligations in an unusual or emergency situation because their priorities may lie elsewhere. Baltimore County reported additional costs and a lack of staff dedication to County team efforts. Miami-Dade County reported excessive contractor staff turnover and a lack of skills transfer.

18. ***Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?***

8 Responding IT Departments

Four jurisdictions reported outsourcing at least some IT activities once provided in house.

- Montgomery County outsourced some of the desktop computer acquisition and support, realizing cost savings from the volume equipment purchases made possible by centralized coordination. Contracting for these services also freed IT department staff to work on business requirements and systems development.
- Baltimore County experienced reduced costs by outsourcing data entry and records management.
- Prince George's County, who outsources most of their IT functions, reported no identifiable improvement in effectiveness or efficiency but a benefit in having faster coverage.
- Indianapolis-Marion County reported increased efficiency and better financial planning after outsourcing some of their activities.

IT Functions

19. ***What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?***

8 Responding IT Departments

All respondents identified IT functions that will grow in importance over the next 5 to 10 years. Both Montgomery and Fairfax counties identified Internet and Intranet applications, e-government functions, including e-commerce, IT security, and telecommunications as areas of growth. Hennepin, Miami-Dade, and Indianapolis-Marion counties also said e-commerce applications will grow in importance.

Montgomery County identified paper-based applications as decreasing in importance. Baltimore County felt that network services would become less important. Miami-Dade identified the development of customized software as decreasing in importance, as did Hennepin County. Indianapolis-Marion County identified conventional mainframe-based applications as being of decreasing value.

20. ***Do you feel some IT functions should be contracted out and some should remain in house- please explain?***

8 Responding IT Departments

Fairfax County identified hardware and infrastructure as candidates for technical support contracts in the future (personal computers, multifunction devices, and network. Miami-Dade and Prince George's counties would contract out high-risk new system developments.

Montgomery County stated that the following functions should be retained in-house: IT strategic planning, vendor oversight, project management, data security management and oversight, and support of highly customized applications. Baltimore would not contract out strategic functions. Indianapolis-Marion County would retain strategic planning and customer liaison.

21. ***When integrating/implementing newer IT functions into your IT organization, what issues arose?***

6 Responding IT Departments (Hennepin and Oakland did not respond)

Montgomery County had trouble stretching existing staff to service new projects for which they did not have adequate training. The IT staff then wrestled with heavy workloads and steep learning curves. The diversion of staff also left the organization vulnerable to possible disasters because adequate backup was not available. Vendors have also underestimated the resources required to deliver new products, resulting in additional unanticipated workloads for in-house staff. Baltimore, Miami-Dade, Prince George's, and Indianapolis-Marion counties reported similar experiences.

B. Responsibility for Information Technology Functions

OLO asked the selected jurisdictions how they divide responsibility for their major IT functions and obtained estimated percentages of responsibility in three categories: outsourced, IT department, and other departments. This section contains summaries of the jurisdictions' estimates for each of 18 major functions and some observations about how the jurisdictions handle their functions.

The table on page 20 contains each jurisdiction's IT department estimate of the distribution of responsibility for each of 18 IT functions.

Observations about the estimated distribution of responsibility (by jurisdiction) begin on page 21.

Observations about the estimated distribution of responsibility (by function) begin on page 23.

Distribution of Responsibility for IT Functions Provided by Jurisdiction IT Departments

KEY: O = Estimated Outsourced Percentage C = Estimated Centralized Percentage D = Estimated Decentralized Percentage

	Montgomery MD			Hennepin MN			Baltimore MD			Fairfax VA			Miami-Dade FL			Prince George's MD			Indianapolis-Marion IN			Oakland MI		
IT Staff % Centralized =	**52 %**			**43 %**			**69 %**			**72 %**			**Unknown**			**99+ %**			**99+ %**			**100 %**		
IT Functions:	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**	**O**	**C**	**D**
IT Consulting	50	10	40	10	45	45	0	0	0	0	100	0	0	60	40	0	0	0	20	80	0	30	70	0
Systems Development	50	25	25	10	45	45	30	60	10	40	55	5	0	70	30	100	0	0	95	5	0	30	70	0
Systems Maintenance	25	50	25	0	50	50	10	80	10	0	75	25	0	70	30	100	0	0	97	3	0	30	70	0
Desktop Computer Support	45	10	45	0	10	90	20	50	30	15	60	25	0	80	20	90	10	0	90	3	7	100	0	0
Geographic Info Systems	10	70	20	0	0	100	0	60	40	20	70	10	0	90	10	100	0	0	30	70	0	20	80	0
Internet	20	40	40	0	50	50	50	50	0	5	65	30	0	80	20	50	50	0	50	50	0	40	60	0
Intranet	0	40	60	0	50	50	0	0	0	0	80	20	0	90	10	100	0	0	30	70	0	40	60	0
E-Commerce	not yet determined			0	50	50	0	0	0	25	75	0	0	0	0	0	0	0	0	0	0	50	50	0
Local Area Network (LAN)	50	25	25	0	100	0	10	90	0	0	75	25	0	70	30	100	0	0	100	0	0	20	80	0
Wide Area Network (WAN)	20	60	20	0	100	0	10	90	0	30	70	0	0	100	0	100	0	0	100	0	0	80	20	0
Server Administration	0	20	80	0	90	10	0	70	30	0	50	50	0	80	20	100	0	0	100	0	0	10	90	0
Help Desk	40	30	30	0	50	50	0	100	0	0	100	0	0	80	20	100	0	0	100	0	0	50	50	0
Computer Operations	0	85	15	0	100	0	0	100	0	0	100	0	0	95	5	100	0	0	100	0	0	0	100	0
Systems Programming	0	100	0	0	100	0	10	90	0	0	100	0	0	95	5	100	0	0	100	0	0	10	90	0
Telephone Operations	0	90	10	0	100	0	0	100	✓	0	100	0	0	100	0	0	100	0	0	100	0	25	75	0
Telephone Maintenance	20	80	0	0	100	0	0	100	✓	0	100	0	0	100	0	60	40	0	0	100	0	75	25	0
Radio Operations	0	90	10	0	100	✓	0	100	✓	0	100	0	0	100	0	0	100	✓	0	100	0	0	100	0
Radio Maintenance	20	80	0	0	100	✓	0	100	✓	0	100	0	0	100	0	100	0	0	0	100	0	0	100	0

Notes:

Montgomery County intends to reduce the decentralized resources required for their Desktop Computer Support and Help Desk functions.

✓ This sign in the Decentralized Column means that IT staff responsible for the function are not part of the jurisdictions' IT department, but are centralized in another department.

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Observations Relating to Summary Functions Table – By Jurisdiction

Montgomery County, Maryland

- outsources portions of responsibility for 11 of their 17 IT functions (10% to 50%)
- Assigns some responsibility to decentralized departments for 15 of their 17 functions (10% to 50%)
- totally decentralizes 0 functions
- totally centralizes 1 of their 17 functions (Systems Programming)
- totally outsources 0 functions

Montgomery County's summary excludes the E-Commerce function because the IT department has yet to decide how the function will be handled.

Hennepin County, Minnesota

- outsources portions of responsibility for 2 of their 18 IT functions (10% each)
- assigns some responsibility to decentralized departments for 10 of 18 functions (10% to 100%)
- totally decentralizes 1 of 18 functions (Geographic Information Systems)
- totally centralizes 8 of 18 their functions
- totally outsources 0 functions

Baltimore County, Maryland

- outsources portions of responsibility for 7 of their 15 IT functions (10% to 50%)
- assigns some responsibility to decentralized departments for 5 of their 15 functions (10% to 40%)
- totally decentralizes 0 functions
- totally centralizes 6 of their 15 functions
- totally outsources 0 functions

Fairfax County, Virginia

- outsources portions of responsibility for 6 of their 18 IT functions (5% to 40%)
- assigns some responsibility to decentralized departments for 8 of the18 functions (5% to 50%).
- totally decentralizes 0 functions
- totally centralizes 7 of their 18 functions
- totally outsources 0 functions

Observations Relating to Summary Functions Table – By Jurisdiction

Miami-Dade County, Florida

- outsources 0 responsibility for their 17 IT functions
- assigns some responsibility to decentralized departments for 12 of their 17 functions (5% to 40%).
- totally decentralizes 0 functions
- totally centralizes 5 of their 17 functions
- totally outsources 0 functions

Prince George's County, Maryland

- outsources portions of responsibility for 14 of their 16 IT functions (50% to 100%)
- assigns some responsibility to decentralized departments for 0 functions
- totally decentralizes 0 functions
- totally centralizes 2 of their 16 functions
- totally outsources 11 of their 16 functions

Indianapolis-Marion County, Indiana

- outsources portions of responsibility for 13 of their 17 IT functions (20% to 100%)
- assigns some responsibility to decentralized departments for 1 of their 17 functions (Desktop Computer Support)
- totally decentralizes 0 functions
- totally centralizes 4 of their 15 functions
- totally outsources 6 of their 15 functions

Oakland County, Michigan

- outsources portions of responsibility for 15 of their 18 IT functions (10% to 100%)
- assigns some responsibility to decentralized departments for 0 functions
- totally decentralizes 0 functions
- totally centralizes 3 of their 18 functions
- totally outsources 1 of their 18 functions (Desktop Computer Support)

Observations Relating to Summary Functions Table – By Function

1. **IT Consulting Function** - includes studying alternatives and emerging technologies to deliver IT solutions to business problems.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**50**	**10**	**40**
Hennepin –MN	(43/57) = hybrid	**10**	**45**	**45**
Baltimore – MD	(69/31) = hybrid	information not reported		
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown = hybrid	-	**60**	**40**
Prince George's – MD	(99+/0) = centralized	information not reported		
Indianapolis-Marion – IN	(99+/0) = centralized	**20**	**80**	-
Oakland - MI	(100/0) = centralized	**30**	**70**	-

- The central IT department retains all or most responsibility for IT consulting in four of the five reporting jurisdictions (Fairfax, Miami-Dade, Indianapolis-Marion, and Oakland).
- Montgomery's central IT department shows the least responsibility for the IT consulting function, with 10 percent responsibility residing in the IT department, 50 percent outsourced, and 40 percent spread among other departments.
- The IT departments in three of the six reporting jurisdictions share responsibility for IT consulting with other departments, and they do so similarly (Hennepin at 45 percent and Montgomery and Miami-Dade each at 40 percent).
- Fairfax is the only reporting jurisdiction where 100 percent of the responsibility is housed in the central IT department.
- The four reporting jurisdictions having hybrid IT organizations show very different levels of IT department responsibility for this function (Montgomery at 10 percent, Hennepin at 45 percent, Fairfax at 100 percent, and Miami-Dade at 60 percent.
- The two reporting jurisdictions having centralized IT organizations similarly divide responsibility between their IT department and outsourcing (Indianapolis-Marion at 20 percent outsourced/80 percent in the IT department and Oakland at 30 percent outsourced/70 percent in the IT department).
- No reporting jurisdiction outsources more than 50 percent of the IT consulting function.

2. **Systems Development Function** - determines requirements for, analyzes the feasibility of, and designs, programs; tests, and implements computerized information systems; integrates custom-coded programs, commercial off-the-shelf packages, central and decentralized departmental computing resources, and contract services to meet the functional requirements.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**50**	**25**	**25**
Hennepin –MN	(43/57) = hybrid	**10**	**45**	**45**
Baltimore – MD	(69/31) = hybrid	**30**	**60**	**10**
Fairfax – VA	(72/28) = hybrid	**40**	**55**	**5**
Miami-Dade – FL	unknown hybrid	-	**70**	**30**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**95**	**5**	-
Oakland - MI	(100/0) = centralized	**30**	**70**	-

- Except for Miami-Dade, all reporting jurisdictions contract out a portion of their systems development function.
- Of the jurisdictions having hybrid IT organizations (Montgomery, Hennepin, Baltimore, Fairfax, and Miami-Dade), Montgomery shows the highest estimated percentage for contracting out (50 percent) and the lowest central IT department responsibility (25 percent).
- Miami-Dade and Oakland show the highest levels of IT department responsibility for systems development (each reported 70 percent).
- Fairfax shows the lowest decentralized department participation (5 percent).
- None of the jurisdictions having centralized IT organizations (Prince George's, Indianapolis-Marion, and Oakland) involve the other departments in their systems development function.
- Of the three jurisdictions having centralized IT organizations, Oakland uses outsourcing to satisfy only 30 percent of the systems development needs, whereas Prince George's and Indianapolis-Marion outsource all or most of the responsibility (100 percent and 95 percent respectively).

3. **Systems Maintenance Function** - maintains existing computerized information systems by making program and parameter modifications to correct errors, to accommodate changing legal, regulatory, and functional requirements, and/or to adapt systems to conform with changes in the hardware and software environment.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	25	50	25
Hennepin –MN	(43/57) = hybrid	-	50	50
Baltimore – MD	(69/31) = hybrid	10	80	10
Fairfax – VA	(72/28) = hybrid	-	75	25
Miami-Dade – FL	unknown hybrid	-	70	30
Prince George's – MD	(99+/0) = centralized	100	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	97	3	-
Oakland - MI	(100/0) = centralized	30	70	-

- Five of the reporting jurisdictions reported contracting out for some or all of their systems maintenance function (Montgomery, Baltimore, Prince George's, Indianapolis-Marion, and Oakland).
- Only two of the five jurisdictions having hybrid IT organizations use contractual arrangements (Montgomery at 25 percent and Baltimore at 10 percent).
- All three jurisdictions having centralized IT organizations outsource all or most of the systems maintenance function (Prince George's at 100 percent, Indianapolis-Marion at 97 percent, and Oakland at 70 percent).
- None of the reporting jurisdictions having centralized IT organizations involve their other departments in the systems maintenance function, while all of the jurisdictions having hybrid organizations do.
- Hennepin's decentralized departments have the highest estimated responsibility (50 percent) and Baltimore's have the lowest (10 percent).
- The percentages of decentralized responsibility shown for the systems maintenance function in Montgomery, Fairfax, and Miami-Dade are very similar, ranging from 25 to 30 percent.

4. **Desktop Computer Support Function** - provides acquisition, installation, upgrades, moves, maintenance, asset management, and disposition of desktop computer hardware and software.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**45**	**10**	**45** *
Hennepin –MN	(43/57) = hybrid	-	**10**	**90**
Baltimore – MD	(69/31) = hybrid	**20**	**50**	**30**
Fairfax – VA	(72/28) = hybrid	**15**	**60**	**25**
Miami-Dade – FL	unknown hybrid	-	**80**	**20**
Prince George's – MD	(99+/0) = centralized	**90**	**10**	-
Indianapolis-Marion – IN	(99+/0) = centralized	**90**	**3**	**7**
Oakland - MI	(100/0) = centralized	**100**	0	-

* Montgomery County reported an intention to reduce the decentralized resources needed for this function.

- Six of the eight reporting jurisdictions use contractual relationships to obtain some or all services for their desktop support function (Montgomery, Baltimore, Fairfax, Prince George's, Indianapolis-Marion, and Oakland).
- All three jurisdictions having centralized IT organizations contract out to acquire all or most of their desktop computer support services (Prince George's and Indianapolis-Marion at 90 percent and Oakland at 100 percent).
- The three of five hybrid jurisdictions that outsource some responsibility for desktop computer support do so at less than 50 percent (Montgomery at 45 percent, Baltimore at 20 percent, and Fairfax at 15 percent.
- Of the five jurisdictions having hybrid organizations (Montgomery, Hennepin, Baltimore, Fairfax, and Miami-Dade), Hennepin shows the highest decentralized department involvement in the function.
- Of the hybrid jurisdictions, Montgomery shows the highest level of outsourcing (45 percent). As Montgomery reduces the decentralized responsibility, the jurisdiction's outsourced percentage may increase.

5. **Geographic Information Systems (GIS) Function** – designs and implements GIS applications; maintains the accuracy of the geographic base file); and participates in the development and maintenance of the planimetric and property databases.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**10**	**70**	**20**
Hennepin –MN	(43/57) = hybrid	-	-	**100**
Baltimore – MD	(69/31) = hybrid	-	**60**	**40**
Fairfax – VA	(72/28) = hybrid	**20**	**70**	**10**
Miami-Dade – FL	unknown hybrid	-	**90**	**10**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**30**	**70**	-
Oakland - MI	(100/0) = centralized	**20**	**80**	-

- Only Montgomery and Fairfax spread responsibility for their GIS function among their central IT department, the decentralized departments, and private contractors, and both jurisdictions retain 70 percent in their IT departments.
- Miami-Dade shows the highest centralized responsibility for the GIS function (90 percent in the IT department) and places the remaining responsibility in the decentralized departments.
- Baltimore similarly shows shared centralized and decentralized department responsibility, but the 60/40 respective split is very different from Miami-Dade's 90/10 split.
- Hennepin is the only reporting jurisdiction where the decentralized departments have total responsibility for the GIS function.
- Prince George's is the only reporting jurisdiction that outsources 100 percent.

6. **Internet Function** - designs and implements Internet Web pages and applications; installs and maintains Internet infrastructure (e.g., servers, firewalls); manages Web page content; trains end-users; and develops policies and procedures.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	20	40	40
Hennepin –MN	(43/57) = hybrid	-	50	50
Baltimore – MD	(69/31) = hybrid	50	50	-
Fairfax – VA	(72/28) = hybrid	5	65	30
Miami-Dade – FL	unknown hybrid	-	80	20
Prince George's – MD	(99+/0) = centralized	50	50	-
Indianapolis-Marion – IN	(99+/0) = centralized	50	50	-
Oakland - MI	(100/0) = centralized	40	60	-

- The majority of reporting jurisdictions show similar levels of central IT department responsibility for their Internet function, with 50 percent being the median level of IT department responsibility.
- Miami-Dade shows the highest centralized responsibility (80 percent), and Montgomery shows the lowest (40 percent).
- Four of the five jurisdictions having hybrid IT organizations (Montgomery, Hennepin, Fairfax, and Miami-Dade) show some decentralized responsibility for the Internet function (ranging from 20 to 50 percent).
- Baltimore is the only hybrid jurisdiction that splits responsibility for the Internet function 50/50 between their central IT department and outsourcing.
- All three jurisdictions having centralized IT organizations split responsibility for their Internet function between their central IT department and outsourcing (Prince George's outsources 50 percent, Indianapolis-Marion outsources 50 percent, and Oakland outsources 40 percent).
- No reporting jurisdiction outsources more than 50 percent of the Internet function.

7. **Intranet Function** – designs and implements Intranet pages and applications; installs and maintains Intranet infrastructure; and manages Intranet content.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**40**	**60**
Hennepin –MN	(43/57) = hybrid	-	**50**	**50**
Baltimore – MD	(69/31) = hybrid	information not reported		
Fairfax – VA	(72/28) = hybrid	-	**80**	**20**
Miami-Dade – FL	unknown hybrid	-	**90**	**10**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**30**	**70**	-
Oakland - MI	(100/0) = centralized	**40**	**60**	-

- Six of the seven reporting jurisdictions show a central IT department responsibility for the Intranet function (Montgomery, Hennepin, Fairfax, Miami-Dade, Indianapolis-Marion, and Oakland).
- The four reporting jurisdictions having hybrid IT organizations (Montgomery, Hennepin, Fairfax, and Miami-Dade) do not contract out any portion of responsibility for the Intranet function, but do share responsibility with the decentralized departments.
- The decentralized departments in Montgomery and Hennepin carry at least half of the responsibility for the Intranet function (50 percent and 60 percent respectively).
- The decentralized departments in Fairfax and Miami-Dade carry less than a quarter of the responsibility for the function (20 percent and 10 percent respectively).
- The three jurisdictions having centralized IT organizations share no responsibility for the Intranet function with the other departments, but do contract out some or all of the responsibility.
- The four reporting hybrid jurisdictions do not outsource any portion their Intranet function, whereas the three jurisdictions having centralized IT organizations outsource some or all of the function: Prince George's outsources 100 percent of the responsibility, while Indianapolis-Marion and Oakland outsource less than half (30 percent and 40 percent respectively).

8. **E-Commerce Function** – designs and implements applications to accomplish Internet business transactions; installs and maintains E-Commerce infrastructure.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	to be determined – in early development stage		
Hennepin –MN	(43/57) = hybrid	-	**50**	**50**
Baltimore – MD	(69/31) = hybrid	information not reported		
Fairfax – VA	(72/28) = hybrid	**25**	**75**	-
Miami-Dade – FL	unknown hybrid	information not reported		
Prince George's – MD	(99+/0) = centralized	information not reported		
Indianapolis-Marion – IN	(99+/0) = centralized	information not reported		
Oakland - MI	(100/0) = centralized	**50**	**50**	-

- The three reporting jurisdictions (Hennepin, Fairfax, and Oakland) each apportion responsibility for e-commerce differently.
- Hennepin divides responsibility for the function evenly between the central IT department and the decentralized departments, while Oakland divides responsibility evenly between the central IT department and outsourcing.
- Fairfax does not involve the decentralized departments at all, but places 75 percent of responsibility in the IT department and outsources the remaining 25 percent.
- No reporting jurisdiction outsources responsibility for more than 50 percent of their e-commerce function.

9. **Local Area Network (LAN) Function** – designs, installs, and maintains data communications network that serves users within a confined geographic area (i.e., floor, building, campus); includes cabling, transport protocol, and network devices.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**50**	**25**	**25**
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	**10**	**90**	-
Fairfax – VA	(72/28) = hybrid	-	**75**	**25**
Miami-Dade – FL	unknown hybrid	-	**70**	**30**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**100**	-	-
Oakland – MI	(100/0) = centralized	**20**	**80**	-

- Five of the eight reporting jurisdictions show a high degree of centralized responsibility for LAN services (Hennepin at 100 percent, Baltimore at 90 percent, Fairfax at 75 percent, Miami-Dade at 70 percent, and Oakland at 80 percent).
- Two other jurisdictions completely outsource the LAN responsibility (Prince George's and Indianapolis-Marion).
- Of the jurisdictions reporting a measure of IT department responsibility for the LAN function, Montgomery shows the least centralized responsibility (25 percent) and the most outsourced responsibility (50 percent).
- Only three of the reporting jurisdictions place any responsibility for the LAN function in the decentralized departments (Montgomery at 25 percent, Fairfax at 25 percent, and Miami-Dade at 30 percent).
- Of the three jurisdictions having centralized IT organizations, Prince George's and Indianapolis-Marion outsource the entire responsibility for LAN services, while Oakland outsources only 20 percent.

10. **Wide Area Network (WAN) Function** - designs, installs, and maintains County-owned data communications network that serves users within a wide geographic area; includes cabling, transport protocol, and network devices.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**20**	**60**	**20**
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	**10**	**90**	-
Fairfax – VA	(72/28) = hybrid	**30**	**70**	-
Miami-Dade – FL	unknown hybrid	-	**100**	-
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**100**	-	-
Oakland - MI	(100/0) = centralized	**80**	**20**	-

- All five reporting jurisdictions having hybrid IT organizations show high levels of IT department responsibility for the WAN function (from 60 to 100 percent).
- Montgomery is the only jurisdiction reporting that their decentralized departments have some responsibility for the WAN function (20 percent).
- Three of the five jurisdictions having hybrid IT organizations show some outsourcing for WAN services (Montgomery at 20 percent, Baltimore at 10 percent, and Fairfax at 30 percent).
- All three of the jurisdictions having centralized IT organizations outsource all or most of the responsibility for their WAN function (Prince George's and Indianapolis-Marion at 100 percent, and Oakland at 80 percent).
- The hybrid jurisdictions that use outsourcing for the WAN function, do so at less than 50 percent, whereas the jurisdictions having centralized IT organizations outsource from 80 to 100 percent of the function.

11. **Server Administration Function** – manages network servers, including network security, installing new applications, software upgrades, monitoring daily activity, storage management, and providing routine backups; also includes systems programming on minicomputers.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**20**	**80**
Hennepin –MN	(43/57) = hybrid	-	**90**	**10**
Baltimore – MD	(69/31) = hybrid	-	**70**	**30**
Fairfax – VA	(72/28) = hybrid	-	**50**	**50**
Miami-Dade – FL	unknown hybrid	-	**80**	**20**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**100**	-	-
Oakland - MI	(100/0) = centralized	**10**	**90**	-

- None of the reporting jurisdictions having hybrid IT organizations outsource for server administration services, whereas all the jurisdictions having centralized IT organizations do.
- Each reporting jurisdictions having a hybrid IT organization places a different level of responsibility for server administration in their decentralized departments (ranging from 10 to 80 percent).
- Montgomery's central IT department shows 20 percent responsibility for server administration, while all of the other hybrid jurisdictions show a more substantial centralized responsibility (ranging from 50 to 90 percent).
- Of the three jurisdictions having centralized IT organizations, Prince George's and Indianapolis-Marion completely outsource responsibility for server administration, but Oakland contracts for only 10 percent, retaining the other 90 percent responsibility in their central IT department.

12. **Help Desk Function** – responds to end-user requests for help with information technology equipment, systems, or applications (e.g., desktop computers, mainframe, networks, telephones, voice mail, computer applications); includes both enterprise and departmental IT systems.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	40	30	30 *
Hennepin –MN	(43/57) = hybrid	-	50	50
Baltimore – MD	(69/31) = hybrid	--	100	-
Fairfax – VA	(72/28) = hybrid	-	100	-
Miami-Dade – FL	unknown hybrid	-	80	20
Prince George's – MD	(99+/0) = centralized	100	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	100	-	-
Oakland - MI	(100/0) = centralized	50	50	-

* Montgomery County reported an intention to reduce the decentralized resources needed for this function.

- Only three of the eight reporting jurisdictions show some level of decentralized responsibility for their help desk function (Montgomery at 40 percent, Hennepin at 50 percent, and Miami-Dade at 20 percent).
- Four of the five reporting jurisdictions having hybrid IT organizations place half or more responsibility for the help desk function in their IT department (Hennepin at 50 percent, Miami-Dade at 80 percent, and Baltimore and Fairfax each at 100 percent).
- Of those jurisdictions having hybrid IT organizations, only Montgomery outsources a portion of responsibility for the help desk function. Montgomery reported an intention to reduce the decentralized responsibility for this function, which may increase the level of outsourced responsibility (currently at 40 percent).
- The three reporting jurisdictions having centralized IT organizations outsource from half to all responsibility for the help desk function (Oakland outhouses 50 percent, while Prince George's and Indianapolis-Marion each outsource 100 percent).
- The three jurisdictions having centralized IT organizations outsource from 50 to 100 percent of the help desk function, whereas the five hybrid organizations handle the function predominantly in-house (IT department responsibility plus level of responsibility in the other departments equals 60 to 100 percent).

13. **Computer Operations Function** – operates data center (24 hours/7 days), processes job requests, assists users linked to systems, and performs backup and recovery operations.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**85**	**15**
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	-	**100**	-
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**95**	**5**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**100**	-	-
Oakland - MI	(100/0) = centralized	-	**100**	-

- All eight reporting jurisdictions either outsource their computer operations function OR rely on their central IT department to provide all or most of the needed services (85 to 100 percent).
- Only Prince George's and Indianapolis-Marion outsource the computer operations function, and they do so at 100 percent.
- Only Montgomery and Miami-Dade show any decentralized department responsibility for computer operations (Montgomery at 15 percent and Miami-Dade at 5 percent).
- None of the five reporting hybrid jurisdictions outsource any portion of their computer operations function, while two of the three jurisdictions having centralized IT organizations outsource 100 percent of the function (Prince George's and Indianapolis-Marion)

14. **Systems Programming Function** – ensures efficient performance of the County's mainframe computer; provides database and security administration; integrates vendors' software; accomplishes software replacements or upgrades; provides capacity planning; and provides technical advice to systems analysts, applications programmers, and computer operators.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**100**	-
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	**10**	**90**	-
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**95**	**5**
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	**100**	-	-
Oakland - MI	(100/0) = centralized	**10**	**90**	-

- All eight reporting jurisdictions either outsource the systems programming function OR rely heavily on their IT department to satisfy their systems programming needs (90 to 100 percent).
- Four of the jurisdictions outsource all or part of the function, with Prince George's and Indianapolis-Marion outsourcing all responsibility (each at 100 percent) and Baltimore and Oakland contracting very little (each at 10 percent).
- Only Miami-Dade shows any decentralized department responsibility for systems programming (5 percent).
- Four of the five reporting hybrid jurisdictions do not outsource any portion of their systems programming function, while two of the three jurisdictions having centralized IT organizations outsource 100 percent of the function (Prince George's and Indianapolis-Marion)

15. **Telephone Operations Function** – installs, moves, and modifies telephones and voice mailboxes; installs cabling; monitors operation of telephone systems; handles telephone billing and call accounting; provides end-user training; and develops policies and procedures.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**90**	**10**
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	-	-	**100** *
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**100**	-
Prince George's – MD	(99+/0) = centralized	-	**100**	-
Indianapolis-Marion – IN	(99+/0) = centralized	-	**100**	-
Oakland - MI	(100/0) = centralized	**25**	**75**	-

* Handled by IT employees centralized in the Budget and Finance department.

- Six of the eight reporting jurisdictions centralize responsibility for telephone operations in a single department: Hennepin, Fairfax, Miami-Dade, Prince George's, and Indianapolis-Marion place 100 percent of the responsibility in their IT departments, and Baltimore places 100 percent of the responsibility in their Budget and Finance department.
- Montgomery is the only jurisdiction where responsibility for telephone operations is divided between the IT department and other departments (10 percent responsibility among other departments).
- None of the five reporting hybrid jurisdictions outsources any portion of their telephone operations function, and only one of the three jurisdictions having centralized IT organizations outsources (Oakland at 25 percent).

16. **Telephone Maintenance Function** – maintains telephone systems, voice mail systems, associated network equipment, and telephone sets.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**20**	**80**	-
Hennepin –MN	(43/57) = hybrid	-	**100**	-
Baltimore – MD	(69/31) = hybrid	-	-	**100** *
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**100**	-
Prince George's – MD	(99+/0) = centralized	**60**	**40**	-
Indianapolis-Marion – IN	(99+/0) = centralized	-	**100**	-
Oakland - MI	(100/0) = centralized	**75**	**25**	-

* Handled by IT employees centralized in the Budget and Finance department.

- Five of the eight reporting jurisdictions centralize responsibility for telephone maintenance in a single department: Hennepin, Fairfax, Miami-Dade, and Indianapolis-Marion place 100 percent of the responsibility in their IT departments, and Baltimore places 100 percent of the responsibility in their Budget and Finance department.
- Of the three jurisdictions that outsource responsibility for a portion of the telephone maintenance function, Montgomery shows the lowest level of outsourced responsibility (Montgomery at 20 percent, Prince George's at 60 percent, and Oakland at 75 percent).
- There is no decentralized telephone maintenance component in any of the reporting jurisdictions.
- Four of the five reporting hybrid jurisdictions do not outsource any portion of their telephone maintenance function, whereas two of the three jurisdictions having centralized IT organizations outsource more than half of the responsibility (Prince George's at 60 percent and Oakland at 75 percent).
- Montgomery is the only hybrid organization to outsource any portion of the function (20 percent).

17. **Radio Operations Function** – configures and installs radios; monitors operation of the county's radio communications systems; and provides end-user training.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	-	**90**	**10**
Hennepin –MN	(43/57) = hybrid	-	-	**100** *
Baltimore – MD	(69/31) = hybrid	-	-	**100** **
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**100**	-
Prince George's – MD	(99+/0) = centralized	-	**100**	-
Indianapolis-Marion – IN	(99+/0) = centralized	-	**100**	-
Oakland - MI	(100/0) = centralized	-	**100**	-

* Handled by IT employees centralized in the Sheriff's office.

** Handled by IT employees centralized in the Budget and Finance department.

- Seven of the eight reporting jurisdictions entirely centralize responsibility for the radio operations function in a single department: Fairfax, Miami-Dade, Indianapolis-Marion, and Oakland in their IT departments; Hennepin in their Sheriff's office; and Baltimore in their Budget and Finance department.
- Responsibility for radio operations is one of the few functions that Prince George's and Indianapolis-Marion do not outsource.
- Montgomery is the only jurisdiction where the IT department shares any responsibility for radio operations with other departments (10 percent).
- No reporting jurisdiction outsources responsibility for any portion of this function.

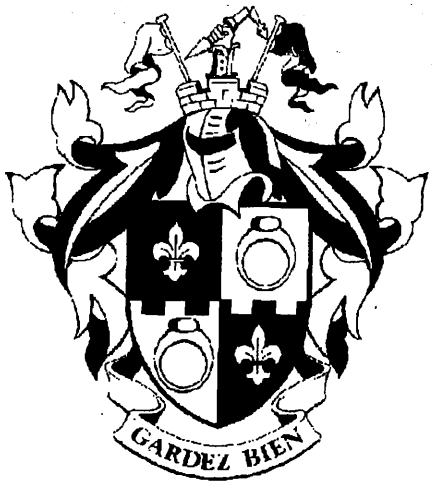
18. **Radio Maintenance Function** – maintains County-owned radios and radio communications systems used primarily by public safety departments.

County	Estimated IT Position Staffing (% central/% decentral)	Estimated % Outsourced	Estimated % Central IT Department	Estimated % Other Departments
Montgomery – MD	(52/48) = hybrid	**20**	**80**	-
Hennepin –MN	(43/57) = hybrid	-	-	**100** *
Baltimore – MD	(69/31) = hybrid	-	-	**100** **
Fairfax – VA	(72/28) = hybrid	-	**100**	-
Miami-Dade – FL	unknown hybrid	-	**100**	-
Prince George's – MD	(99+/0) = centralized	**100**	-	-
Indianapolis-Marion – IN	(99+/0) = centralized	-	**100**	-
Oakland - MI	(100/0) = centralized	-	**100**	-

* Handled by IT employees centralized in the Sheriff's office.

** Handled by IT employees centralized in the Budget and Finance department.

- Six of the eight reporting jurisdictions entirely centralize responsibility for radio maintenance in a single department: Fairfax, Miami-Dade, Indianapolis-Marion, and Oakland in their IT departments; Hennepin in their Sheriff's office; and Baltimore in their Budget and Finance department.
- Responsibility for radio maintenance is one of the few functions that Indianapolis-Marion does not outsource.
- Prince George's is the only jurisdiction that totally outsources responsibility for radio maintenance.
- Montgomery is the only hybrid jurisdiction that outsources any portion of the radio maintenance function (20 percent).
- No jurisdiction shows any portion of decentralized responsibility for this function.



Chapter IV

MONTGOMERY COUNTY, MARYLAND

A. BACKGROUND 41

B. IT ORGANIZATION 41

1. Centralized IT Staff 42

2. Decentralized It Staff 43

C. IT FUNCTIONS 45

D. QUESTIONS AND ADDITIONAL INFORMATION 47

E. SUMMARY CHARTS AND TABLES 59

IV MONTGOMERY COUNTY, MARYLAND

A. Background

Montgomery County is Maryland's most populated jurisdiction, with approximately 855,000 residents. The County is adjacent to Washington DC and includes almost 500 square miles of land area.

Montgomery County was established by the Maryland State Convention in 1776 and functioned under a County Commission system until 1948, when voters adopted a charter giving the County a council-manager form of government. In 1968, the voters approved a new charter providing for separate legislative and executive branches of government, with the legislative power vested in an elected County Council and executive power in an elected County Executive. Terms for the County Council and the County Executive are four years. County residents select four Council members at large and five members from geographic districts.

Median household income was $57,464 for County residents in 1998. Some of the largest employers in Montgomery County include the National Institute of Health, Marriott International, Adventist Health Care, U.S. Food and Drug Administration, Giant Food, Inc., Bell Atlantic, and the National Oceanic Atmospheric Administration.

Montgomery County's central government services include: central government administration, circuit court operations, public safety, transportation, solid waste services, health and human services, culture and recreation, conservation of natural resources, and housing and community development. For FY 2000, the County Council appropriated $2.4 billion to programs and initiatives for the central government, the school system, parks and planning, and other government agencies over which the County Council has appropriation authority.

An organization chart of the Montgomery County government is located at page 61.

B. IT Organization

In November 1986, the Montgomery County Council approved legislation establishing the County's central IT organization, effective for FY 88. Before FY 88, the Office of Management and Budget housed units to handle geographic services, information technology, and computer operations, and the Department of Facilities and Services handled telecommunications. Staff from these units were brought together to form the new Department of Information Systems and Telecommunications (DIST).

DIST received its first full-year appropriation for FY 88 to fund 102 full-time and 8 part-time staff (IT positions = 92 full-time and 7 part-time). OLO estimates that, at that time, other County departments and offices housed about 10-15 IT positions to manage their departmental computing requirements (no official count exists).

Montgomery County's central government (Executive and Legislative branches) maintains a hybrid IT organizational structure: 52% of the total authorized IT positions in DIST and 48% spread among the other departments and offices (DIST = 107 full-time and 4 part-time IT positions; Other Departments = 100 full-time and 5 part-time IT positions).

On occasion, DIST and the other departments also hire temporary employees or enter contractual relationships with private sector IT professionals. These arrangements supplement existing IT staff to perform work for which outside expertise or objectivity is required, to help handle workload peaks, or to obtain skills that current County employees do not possess. Departments also contract out a variety of IT activities or parts of IT functions to the private sector for efficiency reasons.

The departments contract out all or part of the following IT functions: IT consulting, systems development, systems maintenance, desktop computer support (modernization), geographic information systems (GIS), internet, local area network (LAN), wide area network (WAN), help desk, telephone maintenance, radio maintenance, and IT strategic planning. DIST managers maintain that the majority of IT functions throughout the County remain DIST's responsibility (either directly or through oversight of contractual relationships).

1. Centralized IT Staff

The FY 2000 operating budget for DIST was $16.3 million, which included funding for 115 full-time and 4 part-time staff (IT positions = 107 full-time and 4 part-time). On January 1, 2000, DIST had 8 vacant full-time IT positions yielding a 7 percent vacancy rate for the Department. DIST supports the Executive and Legislative branches, the Circuit Court, and the State's Attorney and Sheriff's offices.

Below is a list of DIST's organizational units as of January 1, 2000.

Director's Office (3 full-time positions)
Information Systems Division (59 full-time and 2 part-time positions)
Telecommunications Division (21 full-time positions)
Computer Center (31 full time and 2 part-time positions)
Year 2000 Project Office (1 full-time and various term and temporary positions)

- The *Director's Office* is responsible for developing the annual work program and budget, planning and evaluating special initiatives, guiding the divisions in implementing their programs, and providing other administrative support.
- The *Information Systems Division* is responsible for development, integration, and maintenance of information systems in the functional areas of human services, public safety, finance and administration, geographic information, revenue, and internet/email. This division is also responsible for desktop computer modernization, central servers, and end-user support.
- The *Telecommunications Division* is responsible for telephone services, radio communication services, and engineering services throughout the County.

- The *Computer Center* is responsible for technical support, computer operations, and data control on the mainframe and other enterprise servers, and for the County's computer networks.
- The *Year 2000 Project Office* is a temporary division responsible for conducting Year 2000 (Y2K) remediation of County information systems and applications. The Y2K office initially hosted 21 full-time positions (3 positions assigned from DIST, 1 position assigned from the Office of Management and Budget, and 1 new position, supplemented with 5 temporary positions, 10 term positions, and a consultant).

The Y2K office recently returned the four loaned positions to their respective departments: two positions to the DIST Information Systems Division, one position to the DIST Computer Center, and one position to the Office of Management and Budget. The Y2K office also eliminated the five temporary positions and five of the term positions, and will terminate three more term positions by July 2000. Remaining staff will continue to work out of the Y2K office temporarily.

An organization chart of DIST for FY 2000 is located at page 65.
A chart of DIST's reorganization plan for FY 2001 is located at page 66.

2. Decentralized IT Staff

For FY 2000, the County Council approved 100 full-time (including 1 temporary position) and 5 part-time IT positions for departments and offices other than DIST. On January 1, 2000, 17 full time IT positions remained vacant in these County departments and offices, for an IT job vacancy rate of 17 percent.

Departments with significant IT staff (five or more) include:

Public Works and Transportation (12 full-time IT positions)
Health and Human Services (17 full-time IT positions)
Police Department (16 full-time IT positions)
Libraries (5 full-time and 4 part-time IT positions)
Finance (6 full-time IT positions)
Liquor Control (8 full-time and 1 part-time IT positions)
Circuit Court (5 full-time IT positions)

- The *Department of Public Works and Transportation's* (DPWT) IT staff maintain DPWT's server and LAN systems and perform other IT functions specific to the department. Department IT personnel also maintain numerous DPWT databases for the various offices and divisions. See Attachment A for a listing of specific databases that DPWT IT staff maintain. The database listing currently includes 57 department-specific databases: 2 for the Director's Office; 12 for Engineering Services; 3 for Facilities and Services; 1 for Fleet Management Services; 15 for Highway Services; 6 for Solid Waste Services; 9 for Traffic and Parking Services; and 9 for Transit Services.

- The *Department of Health and Human Services'* (DHHS) IT staff maintain databases, train technical staff, provide computer assistance to computer users, and design and maintain software. In addition, IT staff develop and maintain Internet and Intranet web sites and perform other IT functions specific to the department.

- The *Department of Police's* IT staff service the computers of police officers and civilians within the department, lend support to radio and LAN systems, and perform other IT functions for the department.

- The *Department of Libraries'* IT staff manage the library's automation system for circulation, the bibliographic and customer databases, and the online public catalog. IT staff also manage a server for the Libraries' web site, oversee the maintenance of specialized equipment (barcode readers), maintain an office LAN system with a limited and secure connection to the County's mainframe, manage a WAN system, and provide e-mail and Intranet systems for Library staff. Lastly, this staff provide technical assistance (to library staff and the general public related to Libraries' online services), and provide public access to the online catalog, commercial databases, and the Internet.

- The *Department of Liquor Control's* IT staff maintain the following databases: Inventory Control, Accounts Payable, Accounts Receivable, Fixed Assets, Sales Analyst, Purchasing, Driver Routing, Driver Settlement, General Ledger, Invoicing, Stores, and Transactions. Additionally, IT personnel maintain the Department's servers and LAN systems, develop, write, and maintain the Department's application programs, act as a help desk for County liquor stores, and give customer assistance. IT staff also perform other various IT duties specific to the Department.

- The *Department of Finance's* IT staff maintain several financial systems applications, operate a help desk, and train County employees in the department's financial applications. IT staff also participate in budget preparation, long range planning, project management, file server management, software maintenance, and application management.

- The *Circuit Court's* IT staff maintain a server and LAN system comprising the Court's email and calendar systems and on-line CD-ROM legal research resources (the server also connects the Circuit Court computer system to the County's mainframe). IT staff develop and maintain the Court's Internet web site, maintain multiple databases, train staff, provide computer assistance to end-users, maintain the Court's case management system (contains docketing and scheduling information for all cases, jury selection, and summons). IT staff also provide support, training and assistance to end-users regarding all telephone needs, as well as store, retrieve, and print all reports, judges' orders, and motions.

Organization charts depicting IT positions in each department with five or more IT staff are located at pages 67 - 71.

C. IT Functions

Montgomery County's IT staff perform a variety of IT functions. The table on page 46 shows the County's major IT functions, along with an estimate of the amount of centralized, decentralized, contracted staff, and outsourced activities. The table was prepared based on consensus reached by DIST and a representative group of decentralized IT staff.

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	50	10	40	Note 1	Note 1
Systems Development	50	25	25	Note 2	Note 2
Systems Maintenance	25	50	25	Note 2	Note 2
Desktop Computer Support/Modern.	45	10	45 *	Note 3	Note 3
Geographic Info. System (GIS)	10	70	20	Note 4	Note 4
Internet	20	40	40	Note 5	Note 5
Intranet	0	40	60	None	None
E-Commerce	Note 6	Note 6	Note 6	Note 6	Note 6
Local Area Network (LAN)	50	25	25	Note 7	Note 7
Wide Area Network (WAN)	20	60	20	None	None
Server Administration	0	20	80	None	None
Help Desk	40	30	30 *	Note 8	None
Computer Operations	0	85	15	None	None
Systems Programming	0	100	0	None	None
Telephone Operations	0	90	10	None	None
Telephone Maintenance	20	80	0	2	None
Radio Operations	0	90	10	None	None
Radio Maintenance	20	80	0	1	None
Other: IT Strategic Planning	20	50	30	Note 9	Note 10

* The full-service Desktop Computer Modernization program and IT Help Desk functions were initiated in late fall 1999. The County intends to reduce the decentralized resources required for both functions.

Note 1. Normally obtained through a mix of fixed price and time & materials contracts. Estimated 10–30 FTE per year.

Note 2. This requirement is satisfied through the acquisition of licenses and maintenance of commercial off-the-shelf (COTS) software; fixed price contracts for services; and time & materials contracts. Estimated at 20 – 40 FTE per year.

Note 3. The Desktop Computer Modernization contract is awarded on a "services per seat" plus cost of hardware/software acquisition basis. It is impossible to convert this cost to positions/workyears.

Note 4. The GIS program is heavily dependent on commercial off-the-shelf software and data acquired from outside. Applications development services by contractors are estimated at 1 –3 FTE per year.

Note 5. Web page development services are estimated as 2 – 4 FTE per year and growing.

Note 6. The eCommerce program (eMontgomery) has just been initiated. It is too early to determine the degree to which it will be outsourced.

Note 7. LAN installation including cabling, installation of jacks and termination in wiring closets is generally contracted out. Charges are based on quantity of work, e.g., number of cable drops. Estimated 3 - 6 FTE per year.

Note 8. The Desktop Computer Modernization (DCM) branch of the IT Help Desk is contracted out based on service levels rather than quantity of staff. The contractor currently uses about 7 staff on the Help Desk. The IT Help Desk, kicked off on 12/1/99, is still in transition, so these figures are fluctuating.

Note 9. DIST uses consulting assistance to help update the Horizon 21 plan and to perform relevant studies.

Note 10. Some departments use consulting services to assist in IT strategic planning. These services are based on deliverables rather than quantity of staff.

D. Questions and Additional Information

OLO asked key administrators in DIST several questions covering the following five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the answers DIST provided to OLO.** Note that DIST serves the County's central government, so DIST's references to "County" and "County Government" means the Executive and Legislative offices, the Circuit Court, and the State's Attorney and Sheriff's offices.

General/Organization

1. Who are the main users of your government's IT services?

Response: As Information Technology becomes more pervasive in our society, emphasis is shifting from the traditional customer base of County departments to the new customer base: the broader Montgomery Community, which includes citizens, residents, businesses, community groups, other governments, and others who live, work, visit or interact with Montgomery County.

As the central IT organization, DIST supports all County departments and offices with computing and communications infrastructure and core business systems and operates information systems that support specific government functions, e.g., Criminal Justice Information System (CJIS). IT organizations within departments provide IT services in support of the business of their departments.

The County's ***Horizon 21*** Information Technology Strategic Plan documents the change to a more outward looking vision of providing benefits to citizens. County Government's IT Vision is: "To deliver information and services to citizens at work, at home, and in the community." The plan establishes five strategic objectives within the Service to the Community Strategy Area.

The County's Internet services, which provide a comprehensive web site of nearly 12,000 pages of government information to the community and enable community members to communicate by e-mail with public officials, constitute a first step in that direction. As the eMontgomery program is implemented, enabling completion of a growing list of transactions with the government on line, the community will become even more prominent as users of the government's IT services.

2. How long have you been organized as you are currently, and are there any plans to change the way you are organized?

Response: The County Council approved legislation establishing DIST as the central IT organization in 1986. At that time, the number of IT staff in other departments was negligible, the first technical positions (Wang system administrators) having been established only in 1985. Since that time, the number of IT staff in departments has grown to 100 full-time positions, while the DIST staffing level stands at 107 full-time technical positions. Thus, there has been a significant change in the way the County employs its resources - from highly centralized to a centralized/decentralized model.

The current organization within DIST dates from 1994, when the three-division (Information Systems, Computer Center, and Telecommunications) form was adopted. This organization has proved to be highly flexible, allowing DIST to take on new technologies (e.g., Internet, document management and imaging, Central Server, Fibernet) by internal reallocation of resources without reorganization.

The current DIST organization needs to be augmented with sufficient staff resources to correspond to the rapid expansion in the use of technology by the government. Also, the present structure does not provide adequate management and administrative support (e.g., contract management, personnel administration) to technical leaders and workers. DIST intends to propose changes to remedy these deficiencies.

3. Would any organizational changes improve the quality of your IT services, and what are they?

Response: As stated in response to Question 2 above, certain organizational changes would improve the quality of IT services. The first category of changes would be to add staff resources to areas that have experienced growth in requirements that cannot be accommodated by internal reallocation. These changes will improve response time to customer requests, enable proactive service, and produce productivity gains in customer departments.

The second category of change would build up management and administrative support to technical functions. This change would reduce the application of technical resources to administrative tasks, e.g., procurement, and reduce the total time needed to complete projects, thereby benefiting customer departments.

4. What degree of interaction occurs between central and decentralized IT staff?

Response: In general, there is a high degree of interaction between central and departmental IT staff, especially on matters related to the computing and communications infrastructure, core business systems, Desktop Computer Modernization (DCM), Central Server and other enterprise programs. In addition, the annual IT Review process involves DIST and departmental staff in consultations on proposed allocation of IT resources. In regard to departmental systems, decentralized IT staff normally work independently, calling on DIST staff only as needed.

The ***Horizon 21*** Information Technology Strategic Plan established Objective #33 "to enhance communication and consultation between DIST and departmental information technology personnel." DIST strives to meet this objective through briefings and meetings with departmental IT staff on major programs (e.g., DCM, ***Horizon 21*** Information Technology Strategic Plan updates, IT Review, Year 2000) and by inviting departmental staff participation in IT procurements that may affect those departments.

5. ***What IT initiatives is the county currently working on?***

Response: The County's most significant current IT initiatives include:

- Desktop Computer Modernization
- Enterprise Network Management
- E-commerce (eMontgomery)
- Public Safety 2000 (including 800 MHz)
- Fiber-Net

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response. DIST is aware of only one staffing formula at this time. In the Telephone Services area, the formula used in determining appropriate telephone technician staffing is one technician for every 2,000 telephone lines. DIST does not have a manager-to-worker ratio for which it strives because of the disparity of roles among its managers.

Further, DIST managers typically have hands-on responsibilities for project management, contract management, system operations, and customer service in addition to their leadership and administrative responsibilities.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: IT staffing is subject to competition from the private sector. In the Information Systems Division, staff with skills in "hot" technologies (e.g., Oracle developer, UNIX systems administrator, Microsoft certified engineer) have been difficult to recruit and retain. The Computer Center and Telecommunications Divisions have experienced similar recruitment and retention difficulties with several job classes. Salary levels do not equal those of organizations with which we are competing to attract and retain employees.

In addition, government is seen as being slow to adopt new technology and unable to provide bright, ambitious candidates with appealing growth opportunities. The structure of the IT work force in the County Government leaves many IT professionals in positions offering virtually no chance for promotion. The development of a career path allowing the most highly qualified staff members a route to advancement is essential to long term health of the professional IT staff. Also, a training system that offers professional development and industry-accepted certification programs would aid in recruitment and foster a more vibrant, committed, up-to-date work force.

DIST and departments are suffering from a substantial increase in IT workload without a commensurate staffing increase. Part of the workload increase is due to the proliferation of telecommunications, Internet, and client/server technologies throughout the County Government. Another part of the workload increase in DIST is attributable to procurement, contractual and high level administrative requirements, with no staff dedicated to perform these functions. This results in the need to divert senior technical and management employees from delivering IT services.

8. What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?

Response: The chart below, taken from the Montgomery County IT Strategic Plan, indicates which IT functions are most appropriately centralized or decentralized in the County Government.

Responsibility	Departmental System		Enterprise System	
	Primary	Secondary	Primary	Secondary
Provide Infrastructure	DIST	Department	DIST	Department
Determine Standards & Policy	DIST	Department	DIST	Department
Identify Opportunities	Department	DIST	DIST	Department
Select Source/Application	Department	DIST	DIST	Department
Manage System	Department		DIST	Department
Provide End-User Support	Department	DIST	DIST	Department

Source: Table 4, IT Responsibilities, Montgomery County Information Technology Strategic Plan, p.11

County Government, with input from DIST and departmental IT staff, also developed criteria for determining whether new IT positions should be placed in departments or DIST.

The general criteria favoring new IT staff in business departments *(decentralized)* are:

- Staffing is needed to support departmental IT functions/activities, as described in the above table.
- The requirement for IT support in the department is permanent.
- A significant number of the tasks to be performed are technical and coupled to the department's business function.
- Work is to be performed in an isolated location not easily served by centralized IT staff members – impractical for centralized staff to commute daily to the department location.
- Requirement can be satisfied most economically and reliably with departmental staff.

New staff in DIST *(centralized)* is appropriate under the following criteria:

- Staffing is needed to support enterprise IT functions/activities, as described in the above table.
- Business department's requirements diminish after peak (e.g., after implementation of a new system), allowing resources to be shifted to meet needs of other departments.

- Requirements of several departments can be grouped (e.g., less than one full time equivalent of a specific technical function is needed in multiple departments).
- Work location can easily be serviced from a central site.
- Highly technical duties requiring interaction with technically skilled co-workers are involved.

9. Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?

Response: DIST believes that staff with non-IT related job titles do perform IT functions in some cases in the County Government, but we are unable to provide an accurate quantity. In January, 1998, Mitchell & Titus, LLP, conducted an IT organization study through which they determined that 180 full-time and 59 part-time positions were performing IT functions, while only 174 full-time and 7 part-time positions with IT titles existed in the official position control file.

Evaluation

10. How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?

Response: In general, our central IT organization serves its purpose well, especially concerning the basic services of infrastructure, telecommunications, and core business systems. DIST is unable to be as responsive as we wish to departmental needs for custom services and employment of advanced technology because of lack of staff resources. This is most apparent in such areas as telephone systems (including Interactive Voice Response – IVR); Internet; financial, procurement and tax systems; and Geographic Information Systems (GIS).

Because of insufficient staffing, DIST's data security function addresses only the most critical security requirements and daily security enforcement, providing only rudimentary policy and technical guidance to decentralized IT staff. DIST has very limited capacity to assist departments with security implementations, and cannot follow up on technical assessments provided by contractors and auditors, or investigate violations detected by our existing software.

While DIST's data communications staff provides excellent service to their customers and are fully committed to resolving daily problems and implementing new service, they have little time to provide consulting services to departmental staff, implement proactive monitoring solutions, or perform planning functions.

11. How do you measure whether IT functions are carried out effectively?

Response: Montgomery County Government is in the early stages of developing a program of outcome and performance measures.

A very substantial work effort will be necessary to develop those measures for IT functions, and the measures will need to be consistent with the Montgomery County Government's overall approach. In the *FY00-05 Public Services Program and FY00 Operating Budget*, DIST published program measures for Geographic Information Systems (GIS), Desktop Computer Modernization (DCM), and Telecommunications Services. Moving forward, performance measures will be created for each new IT project or program as the objectives of the IT Strategic Plan are implemented.

Montgomery County will develop performance measures that indicate the degree to which IT aids the Montgomery County Government in:

- Enabling employees to better serve customers;
- Delivering information and services to citizens at work, home, and in the community; and,
- Increasing productivity.

After IT performance measures are identified, data is collected on those measures. For example, in the DCM program, DIST measures such things as the number of personal computers (PCs) modernized, the number of end-users trained, the average age of PCs in the County Government, the average cost of a PC purchased through DCM, and customer satisfaction with DCM services.

These measures help determine if the program is meeting its goals of improving technology on the desktop, improving service to the end-users, and lowering the cost of PCs in the County. In order to accomplish this measurement, DIST installed an asset management system, implemented a DCM branch of the IT Help Desk using the McAfee Help Desk system, and created business processes to include customer satisfaction surveys and ongoing measurement.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: Evaluation of IT services comes at a significant cost. As noted in the DCM example above, data systems had to be purchased and business processes created to ensure that performance measurement would occur. Performance measurement is most efficiently dealt with at the outset of an IT project, with the capability built into IT system functionality and business processes.

Historically, many Montgomery County IT projects and programs were designed without performance measurement in mind. To go back and retrofit performance measurement into every IT service that DIST provides would be very resource intensive. Thus, it is easier to measure and evaluate new and replacement IT services as they are implemented than it is to measure IT services that were designed without performance measurement in mind. In addition, it is worth noting that some IT services, such as IT Strategic Planning, are inherently difficult to measure because of their intangible nature.

13. Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?

Response: DIST sent a formal survey to ten percent of full-time County employees as part of the Horizon 21 Information Technology Strategic Plan data collection process and received responses from 195 employees. Questions addressed whether people could get timely help, whether their problems were resolved to their satisfaction, and what they thought of the County's current capabilities to provide a lengthy list of services. Since the responses reflected the capabilities of both the central and decentralized IT staff, they varied widely, but typically reflected the fact that the County had knowledgeable personnel but not always sufficient resources.

Each year, before the IT Review of departmental budgets, DIST and OMB hold a feedback session where departmental representatives make recommendations to improve the process. Changes, such as adjustments to timing and earlier feedback to departments, have been incorporated as a result of this input.

Managers of the Desktop Computer Modernization program and the DIST IT Help Desk plan to perform customer satisfaction surveys on a regular basis. Customer feedback is critical to performance measurement of these programs. In addition, as a regular part of doing business, DIST managers ask customer departments for input and engage departmental managers and staff in discussions about customer service.

DIST also receives unsolicited feedback when a customer department believes a task could have been handled more effectively or timely. Customer departments have expressed that DIST needs to get "closer to the business" of the departments to be able to serve them better. IT customers are generally satisfied with the quality of IT work performed, but not always satisfied with the quantity/availability of IT services.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: When measuring efficiency of an IT department, one considers inputs and outputs. In some cases, County Government has inadequate input and output measures. With regard to inputs, the County has easy access to budgeting and spending data within the budgets that DIST controls. However, other inputs that occur outside of DIST are not easily quantified. For example, a recent inventory conducted by the Desktop Computer Modernization office revealed that County Government has 5,200 personal computers (PCs) rather than the 4,100 believed to have been installed. Some of the differences were due to recent PC purchases (e.g., for Department of Public Libraries), but much of the difference was due to the existence of previously unaccounted for PCs.

While we are gaining control of desktop PCs, there are other areas of IT spending where departmental autonomy and administrative practices make it difficult to know the magnitude of inputs. Even more so, the County is lacking output measures for the reasons described in the response to number 12 above. As we implement new IT programs and systems, our evaluation of efficiency will continue to improve.

With regard to evaluating IT service providers, the evaluation varies depending on the type of contractual arrangement. For vendors who provide ongoing services (e.g., PC services), DIST currently uses Service Level Agreements (SLAs) to outline vendors' specific responsibilities and measure the degree to which vendors meet those responsibilities. When SLAs have not been created, it is difficult to evaluate such services.

For contractor agreements in which specific projects are accomplished, task orders or contracts delineate the measures by which the contractor will be evaluated. If the contracts do not contain very specific performance requirements, it becomes a barrier in evaluating contractor performance. Finally, when contractors are hired in place of County staff, County Government does not typically have a formal evaluation process for those contractors. Rather, managers informally evaluate the performance of the staff over time.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: DIST continually reviews new and existing programs to ensure that contractors are used in the most advantageous manner. As an example, the Desktop Modernization Program (DCM) was carefully formulated with the most cost-effective combination of contractors and in-house staff. Contractors provide workstation installation, maintenance, moves, adds, and changes (MACs), and help desk services. Core Business program support and hardware maintenance support are other examples of contract assistance being used where it will benefit the County the most. In the former case, contractors provide specific knowledge of the vendor-supplied software, while in the latter example, repairs requiring specialized knowledge and equipment are contracted out.

In the annual IT Review process, which precedes departmental budget submissions, DIST evaluates the capacity of department and DIST staff to support the proposed projects. DIST makes recommendations about whether existing staff can support the project, whether additional staffing or contractual support would be appropriate, or whether the project cannot be supported at all.

Key elements in the decision to contract out include:

- A cost/benefit analysis indicates it is appropriate.
- Expertise is required for a limited period of time.
- Staff expertise is required that is not attainable for the salary or in the timeframe required.
- Existing staff is required to perform other critical tasks.
- There is a temporary peak workload.
- An independent opinion is critical.
- Specialized tools and the expertise to use them are required.

- Risk is best assumed by another party.
- Proprietary software or hardware is involved.
- County doesn't wants to expand its core competencies to include this element.
- Professional judgment indicates it is the best solution.

DIST allocates in-house staff for:

- Oversight of vendors and contractors.
- Project management.
- IT infrastructure monitoring.
- Data security oversight and management.
- Maintenance support of highly customized enterprise applications.
- IT strategic planning and governance.

16. What degree of interaction occurs between IT staff and contractors?

Response: The degree of interaction between IT staff and contractors is highly variable. In the implementation of large information systems projects, a high degree of interaction is desirable and is usually achieved. This interaction is important to ensure that the system meets customer requirements and the County staff will be able to maintain the system. Examples of projects requiring extensive interaction include the Human Resources Management System (HRMS) and the municipal tax receivables system.

At the other end of the spectrum, routine hardware maintenance services require much less interaction, typically limited to coordination of service times, problem reporting and verification that service was performed. In between those extremes, there is wide variation but we generally find that the closer that County IT staff and contractors work together, the better the results.

17. What benefits/problems occurred as a result of outsourcing?

Response:

Some benefits that occurred through outsourcing IT activities include:

- Positions are always filled because the vendor is required to provide staffing at all times.
- Contractor staff can supplement County staff during peak or cyclical workloads.
- Contractor knowledge is often transferred to County staff.
- Efficiency in work which is repetitive and can be done in bulk at depots.
- The County does not have to maintain a corps of experts in work that is highly specialized or narrowly focused (e.g., repairing circuits or processor boards) or hazardous (scaling towers to maintain and repair); instead, work can be accomplished by contractors highly trained and skilled in those areas.
- Contractor staff can supplement County staff during peak or cyclical work.

Some problems that have occurred include:

- The County has served as "training ground" for contractor employees.
- Remotely located vendors have not adequately managed contractor employees, resulting in increased County cost for vendor management (e.g., many meetings with contractor management).
- Contractor skill inventory may not match or may be inadequate for the work at hand; difficulty and time lost in executing the replacement of incompetent contractor staff.
- Inability to schedule contractor's work due to conflicts with other customers
- Inability for contractors to provide special coverage for potential emergencies or unusual situations (e.g., because contractors are not on site).
- The County has not experienced this problem but the possibility remains: response time for system failures or emergency situations may not be guaranteed even though mandated in a contract (e.g., County may not be contractor's first priority in a wide-area disaster situation).

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response. The Montgomery County Government recently began outsourcing the acquisition, maintenance and support of Desktop Computers. This initiative centralized these infrastructure support services for the first time. The County immediately began to realize savings resulting from the larger quantity acquisitions of personal computers (PCs). The program has already been effective in allowing County IT staff to focus on business requirements and systems, in place of moving and installing PCs.

As the program reaches full operation, the County expects to realize further efficiencies through centralized help desk and maintenance operations. In order to achieve these benefits, it was necessary to establish an in-house Desktop Computer Modernization planning staff to precisely define customer requirements and to ensure the requirements are being met.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response:

IT functions that will grow in importance in the next 5-10 years include:

Telecommunications. Telephone systems and associated technology, including: Interactive Voice Response, Call Management, and Videoconferencing. Radio Systems, Wireless Data systems, Fiber optic and other Wide Area Networks, connection to Metropolitan Area and National/International Networks or Data portals.

Especially emergency communications, data communications, and support of line-of-business applications for a variety of governmental functions (see below). Increasing amounts of bandwidth will be required to Support County functions.

Line-Of-Business Applications Management. Over the past few years, departments and agencies in the government have increasingly made use of comprehensive line-of-business applications to perform daily operations, manage programs, plan, and evaluate. This trend will continue.

Examples of major line-of-business applications that will become more prominent: Public Safety (Computer Aided Dispatch for emergency response, Records Management for a variety of functions, Automatic Vehicle Location, and GIS Mapping), Geographic Information Systems, Financial/Budget/Personnel systems, Advanced Traffic Management. These systems will increasingly rely on network communications to allow for their use over wide geographic areas. DIST will be required to coordinate and validate the replacement and maintenance requirements of line-of-business applications.

Personal Computing. Personal computers have already become an essential tool for most employees. In the future this trend is likely to continue and expand to include use of handheld devices, and more specialized personal computing tools.

Internet/Intranet/eCommerce. The Internet and electronic commerce will play an increasing role in the development of line-of-business applications and in the ability of government to exchange data with other entities and provide on-line services. Intranets will become increasingly important for internal government information sharing. Already, the IT industry is seeing a drive towards browser-based access to computer applications, taking away the requirement to install client software on every PC that will access an application. The need for security expertise will increase to allow for use of these vital technologies.

Strategic Planning. As the quantity and complexity of Information Technology Systems grows, there will be an increasing need for more effort devoted to planning, evaluation, and coordination at both the enterprise and departmental level.

IT functions that might become less important in the future will center on types of technology rather than the use of technology for a particular function.

Older programming languages such as COBOL, FORTRAN, and other non-graphical languages will give way to the use of more modern languages like Visual Basic, JAVA, and SQL.

Processes that support paper intensive technology are also likely to convert to increased use of electronic data interchange.

The use of analog technologies will continue to give way to the use of digital technologies that allow for more efficient data exchange.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response. See response to Question 15 for a list of key elements in the County Government's decision to contract out.

IT functions which DIST believes should remain in-house include oversight of vendors, project management, monitoring IT infrastructure, data security oversight and management, maintenance support of highly customized applications, IT strategic planning, and IT governance.

21. When integrating/ implementing newer IT functions into your IT organization, what issues arose?

Response: DIST has been faced with the need to assign existing staff, already fully committed to existing projects, to new tasks for which they were not previously trained. This presented the double burden of additional workload and a steep learning curve. In some cases only a single individual was initially trained to perform these functions, leaving the organization vulnerable when that individual was not available.

Another challenge in implementing newer IT functions has been the estimation of staffing required for those functions. In some cases, vendors have underestimated the in-house resources required to bring in new technologies, and DIST has had to allocate existing staff to handle the additional workload.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Montgomery County chapter. Several charts and tables are included.

- *Montgomery County Profile* *60*
  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget

- *Montgomery County Government Organization Chart* *61*
  Shows the current organization by functional area.

- *Montgomery County Government IT Organization Profile* *62*
  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions that DIST employees perform or manage, and a list of departments in the County having five or more IT positions.

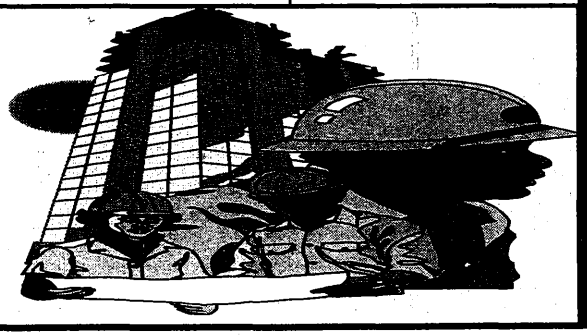
- *Montgomery County Government IT Organization Chart* *63*
  Shows the number and location of IT staff throughout the various branches of government that DIST supports.

- *Table of IT Positions by Department* *64*
  Supplements the Government IT Organization Chart, showing IT staff in the departments and offices that DIST supports.

- *Organization Chart of DIST* *65*
  Shows the organization of IT staff in the divisions and offices of the department.

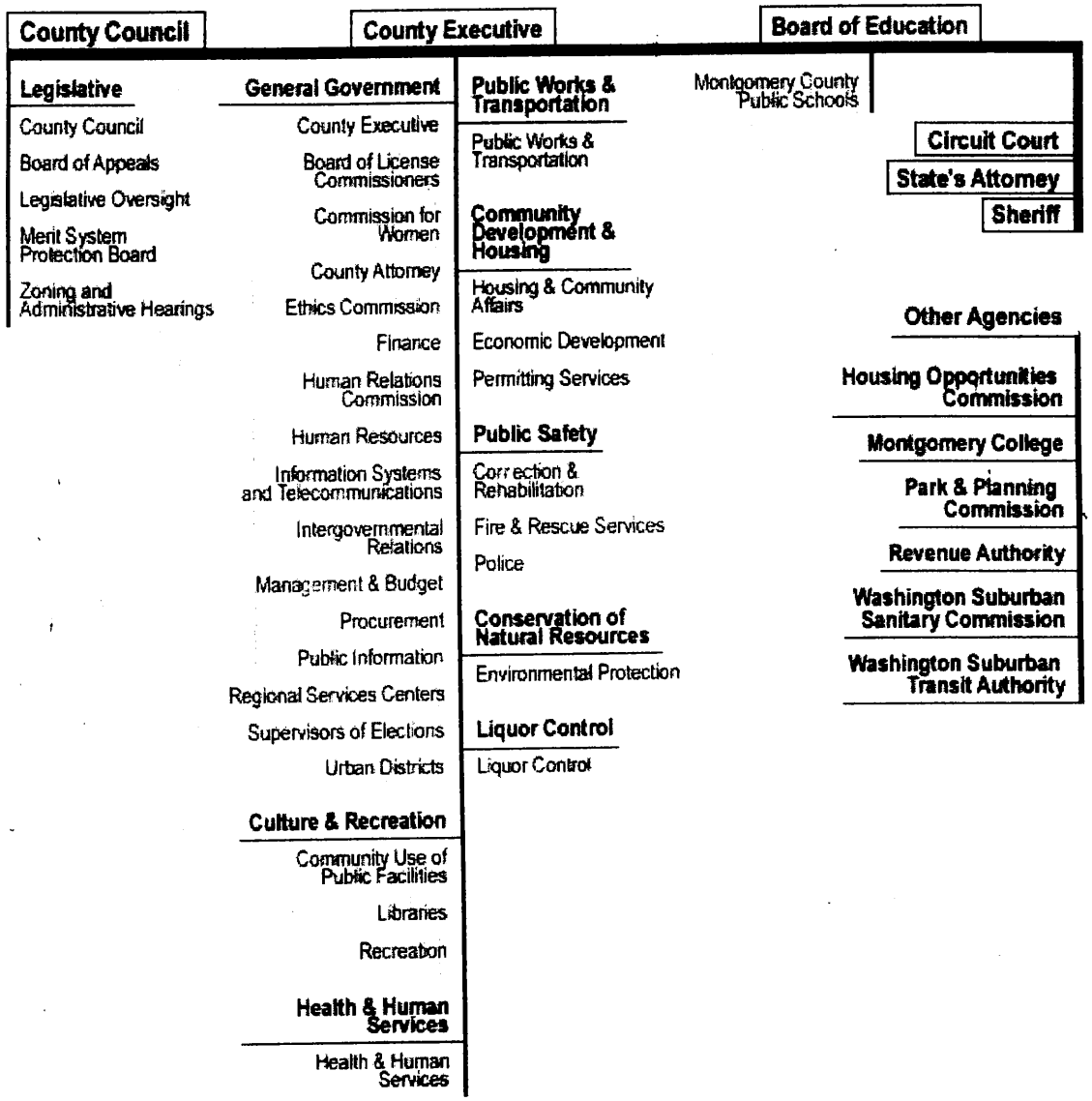
- *Organization Charts of Other Departments with Significant IT Staff* *67-71*
  Show staffing in departments (other than DIST) that have five or more full-time IT staff.

Profile of Montgomery County, Maryland

Estimated Population	**855,000 (2000)**	**Largest Employers**	**M.C. Public Schools Ntl. Institute of Health County Government Marriott International Adventist Health Care U.S. FDA Giant Food Inc. Bell Atlantic U.S. NOAA**
County Area (Square Miles)	**494**		
County Income (Median Household)	**$57,464 (1998)**	**County Operating Budget***	**$2.408 billion (FY 2000)**
		**Employees Supported by the Department of Information & Systems Telecommunications (DIST)**	**7,000 Full Time 1,205 Part Time 7,983 Total WYs (FY 2000)**
Form of Government: Elected County Council / Elected County Executive			
Central Government Functions	**Public Safety, Environmental Protection and Solid Waste Services, Public Works and Transportation, Health and Human Services, Culture and Recreation, Community Development and Housing, Circuit Court Operations, General Government**		

* Includes budgets for the Executive and Legislative branches and other agencies for which the Montgomery County Council has appropriation authority.

Organization Chart of Montgomery County, Maryland Government



Montgomery County, Maryland
IT Organization Profile FY 2000

IT Organization Structure	**Hybrid (52% centralized)**
Total IT Positions	**207 FT** (1=temporary) **9 PT**
IT Position Groups	**Centralized**: 107 FT, 4 PT **Decentralized**: 100 FT, 5 PT
Central IT Department Operating Budget	**$16,276,340**

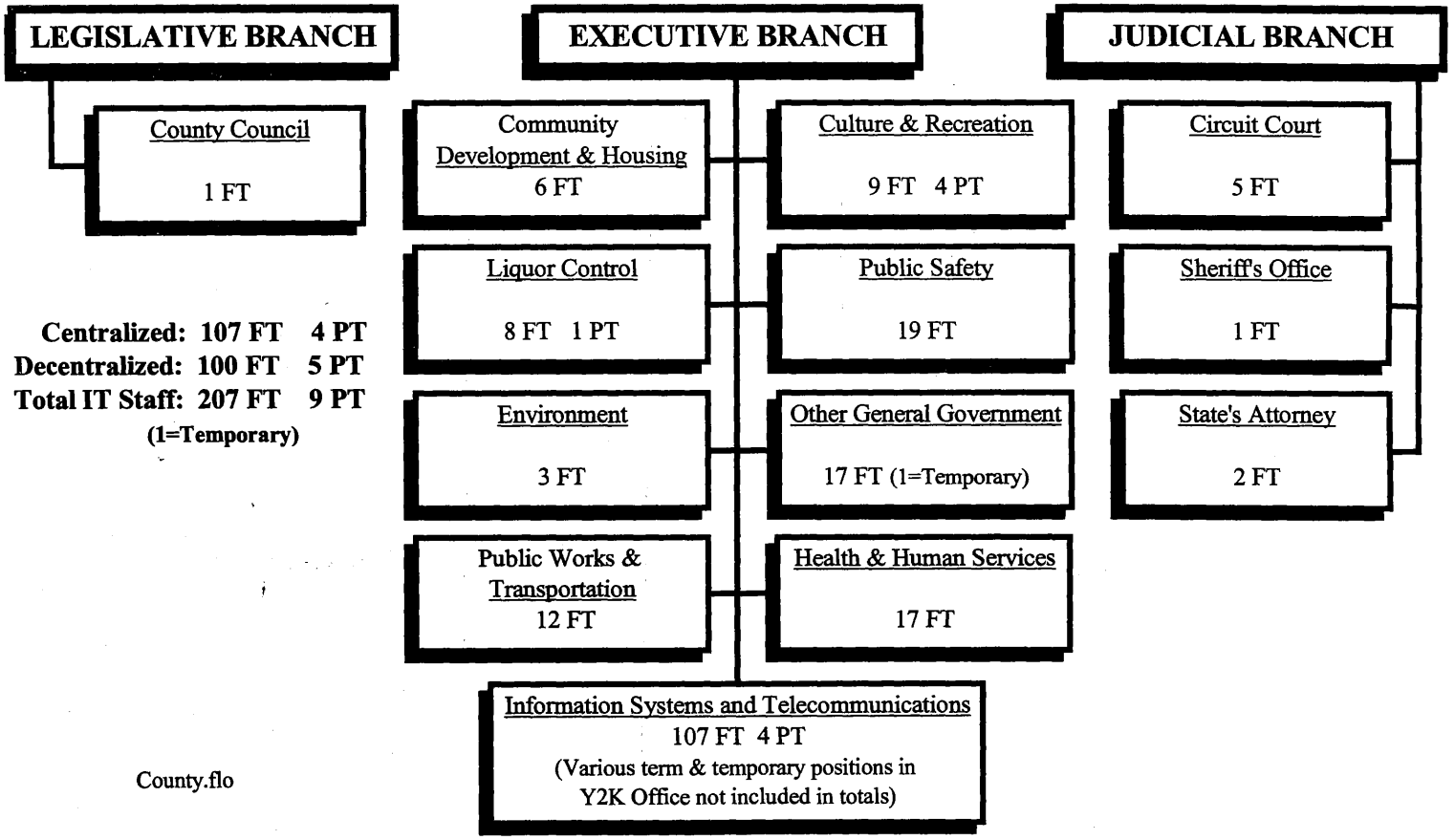
IT Department Functions

- Internet
- Intranet
- Help Desk
- E-Commerce
- IT Consulting
- Radio Operations
- Radio Maintenance
- IT Strategic Planning
- Server Administration
- Computer Operations
- Telephone Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Telephone Maintenance
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support
- Geographic Information Systems

Departments Having Five or More IT Positions

- Circuit Court
- Finance
- Libraries
- Liquor Control
- Health & Human Services
- Public Works &Transportation
- Police

Montgomery County Government Departments and Offices Supported by DIST
IT Positions Approved for FY 2000



Centralized: 107 FT 4 PT
Decentralized: 100 FT 5 PT
Total IT Staff: 207 FT 9 PT
(1=Temporary)

County.flo

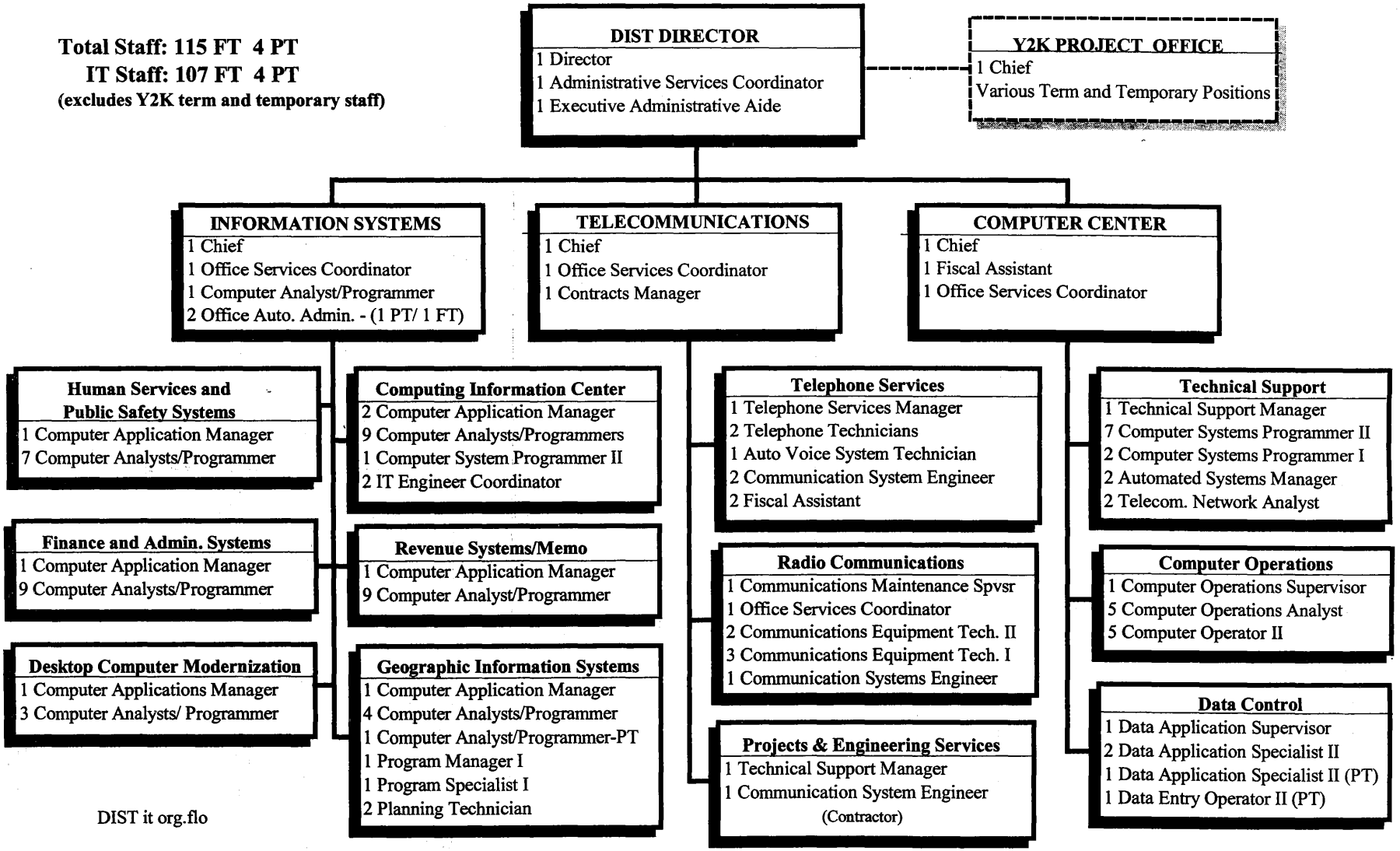
Additional detail by department begins on the next page.

FY 2000 APPROVED IT STAFFING	FULL-TIME IT POSITIONS	PART-TIME IT POSITIONS	OTHER IT POSITIONS	TOTAL IT POSITIONS
EXECUTIVE BRANCH				
General Government				**124 FT 4 PT (1=Temp)** plus various Y2K term and temporary positions during parts of the fiscal year not included in the totals
County Executive	1	0	0	
Board of Elections	1	0	0	
County Attorney	1	0	0	
Finance	6	0	0	
Human Relations Commission	1	0	0	
Human Resources	3	0	1 FT Temp	
Information Systems & Telecommunications	107	4	*Various Y2K	
Management and Budget	1	0	0	
Procurement	2	0	0	
Public Safety				**19 FT**
Correction and Rehabilitation	1	0	0	
Police	16	0	0	
Fire and Rescue Service	2	0	0	
Community Development and Housing				**6 FT**
Housing and Community Affairs	3	0	0	
Permitting Services	3	0	0	
Culture and Recreation				**9 FT 4 PT**
Community Use of Public Facilities	2	0	0	
Public Libraries	5	4	0	
Recreation	2	0	0	
Environmental Protection	3	0	0	**3 FT**
Health and Human Services	17	0	0	**17 FT**
Liquor Control	8	1	0	**8 FT 1 PT**
Public Works and Transportation	12	0	0	**12 FT**
JUDICIAL AND LEGISLATIVE BRANCHES				
County Council	1	0	0	**1 FT**
Circuit Court	5	0	0	**5 FT**
Sheriff	1	0	0	**1 FT**
State's Attorney	2	0	0	**2 FT**
TOTAL IT POSITIONS	**206**	**9**	***1 FT Temp**	**207 FT 9 PT (1=Temp)**

***Various Y2K temporary and term positions during parts of the fiscal year are not included in totals.**

IT Organization and Staffing in the Montgomery County Department of Information Systems & Telecommunications
FY 2000

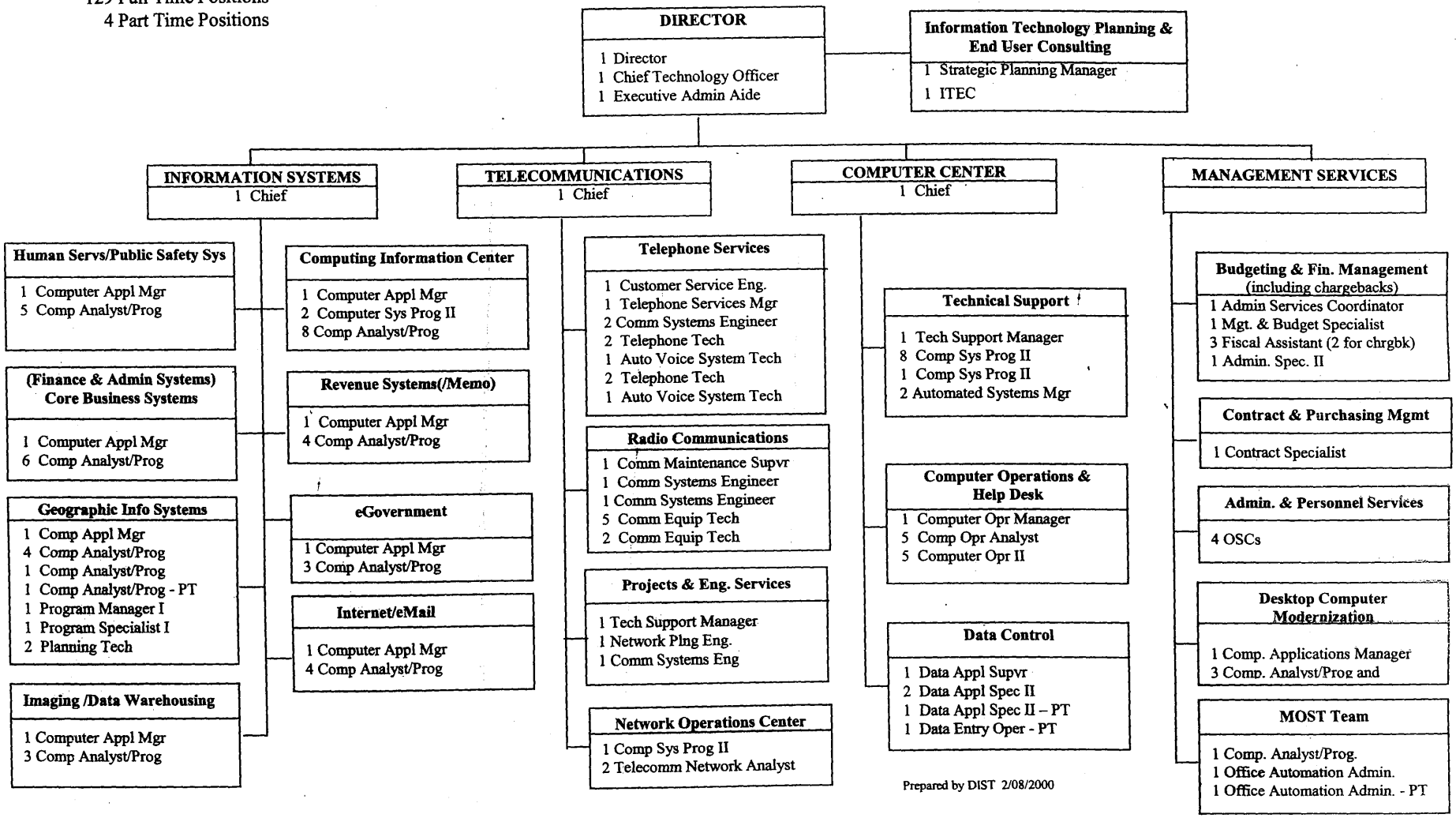
Total Staff: 115 FT 4 PT
IT Staff: 107 FT 4 PT
(excludes Y2K term and temporary staff)



DIST it org.flo

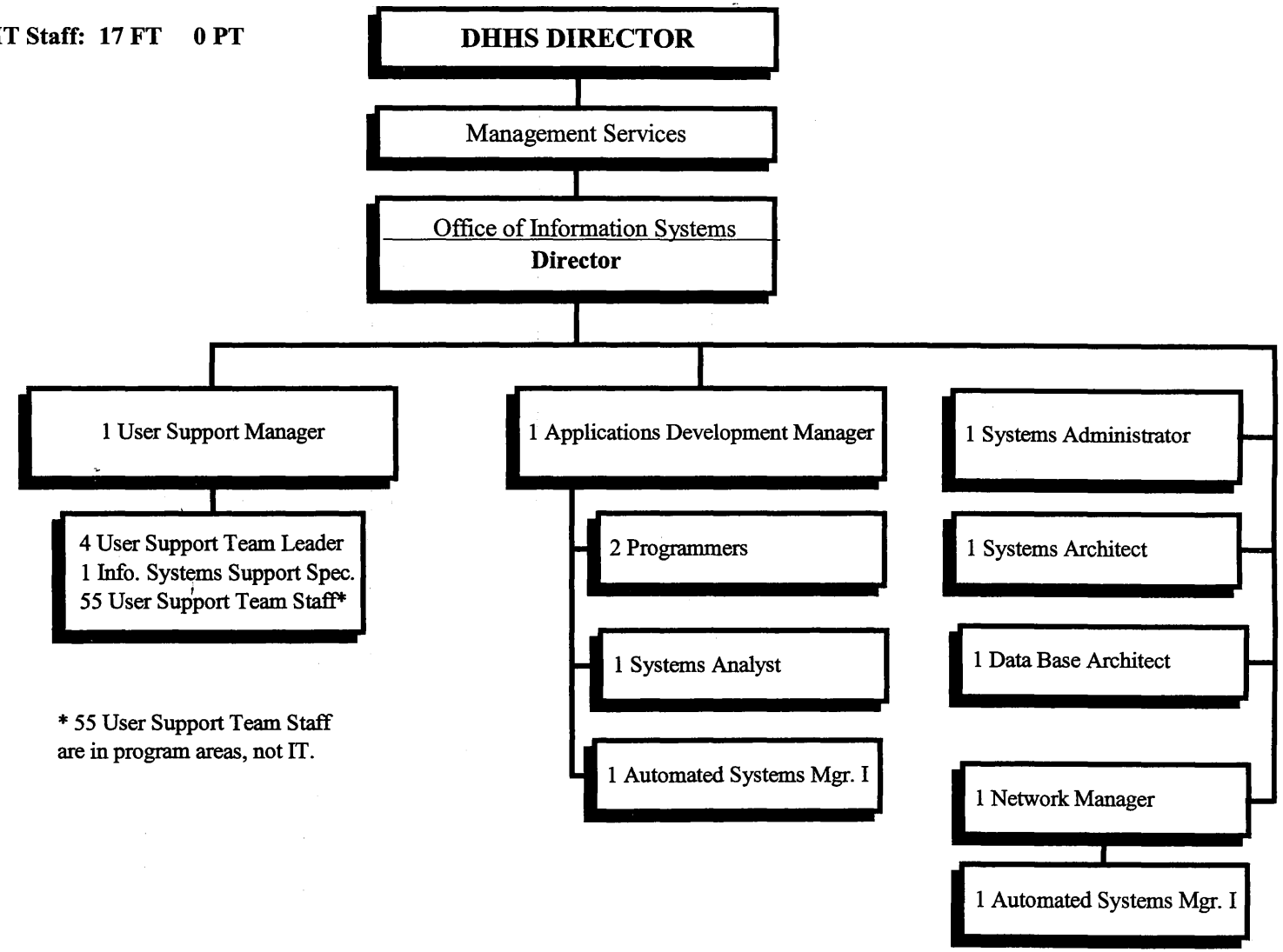
IT Organization and Staffing in the Montgomery County Department of Information Systems & Telecommunications
FY 2001

FY01 Department Summary
129 Full Time Positions
4 Part Time Positions



IT Organization and Staffing in the Montgomery County Department of Health & Human Services - FY 2000

IT Staff: 17 FT 0 PT



* 55 User Support Team Staff are in program areas, not IT.

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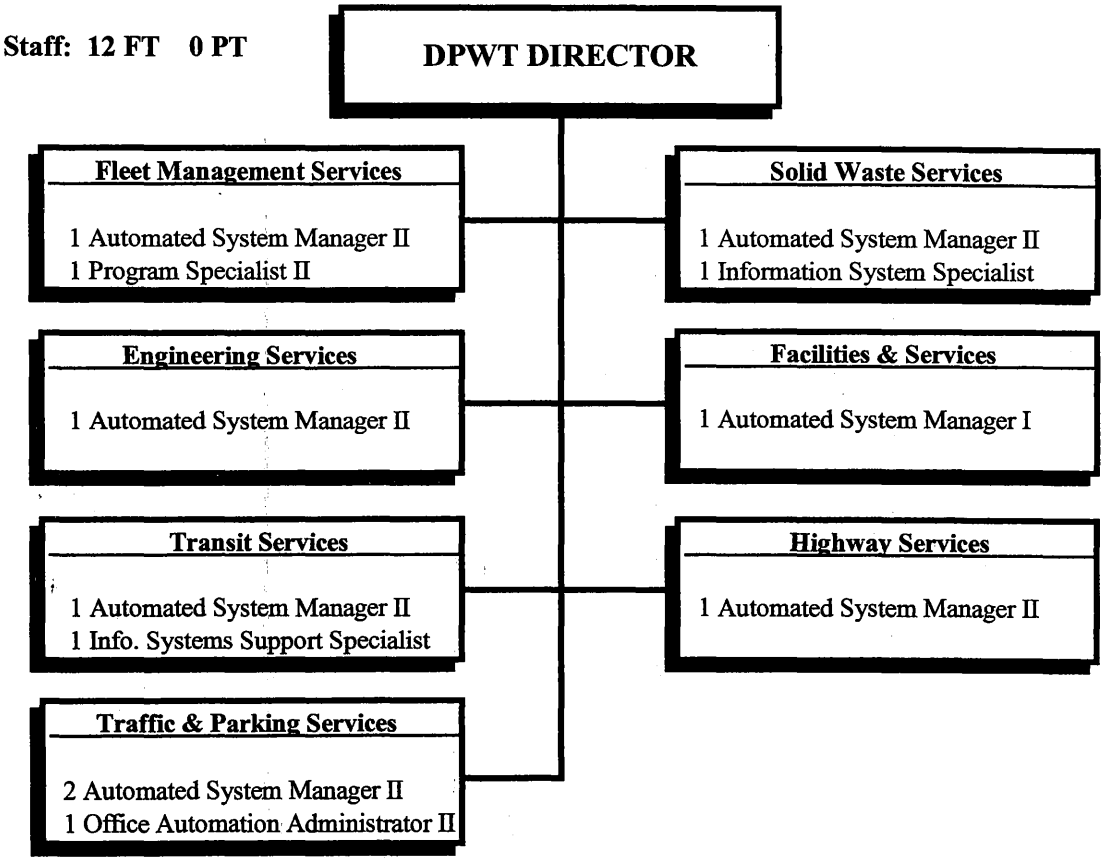
IT Organization and Staffing in the Montgomery County Department of Public Works & Transportation - FY 2000

IT Staff: 12 FT 0 PT



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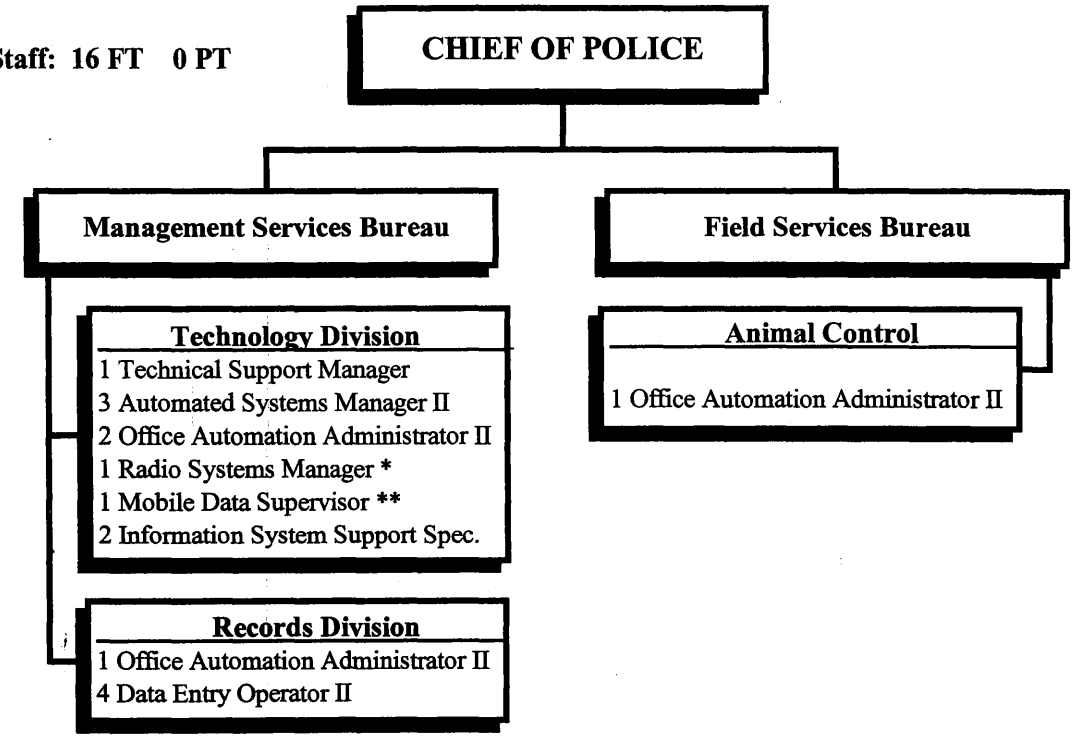
IT Organization and Staffing in the Montgomery County Department of Police - FY 2000

IT Staff: 16 FT 0 PT



***function performed by Sergeant**
****function performed by Corporal**

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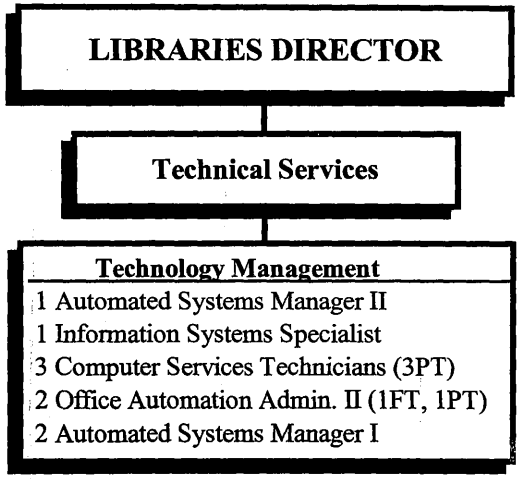
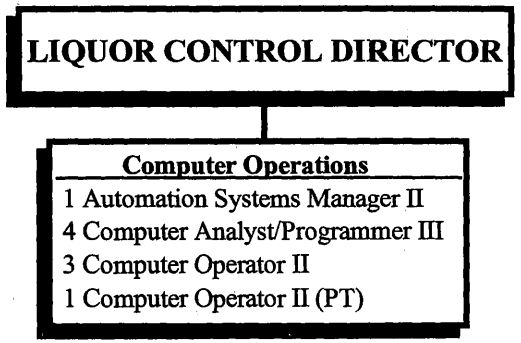
IT Organization and Staffing in the Montgomery County Department of Libraries - FY 2000

IT Staff: 5FT 4 PT

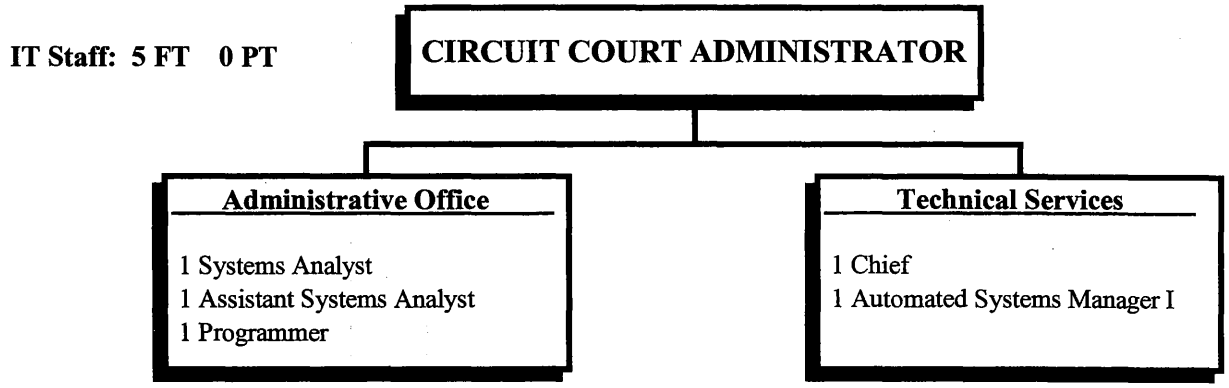


IT Organization and Staffing in the Montgomery County Department of Liquor Control - FY 2000

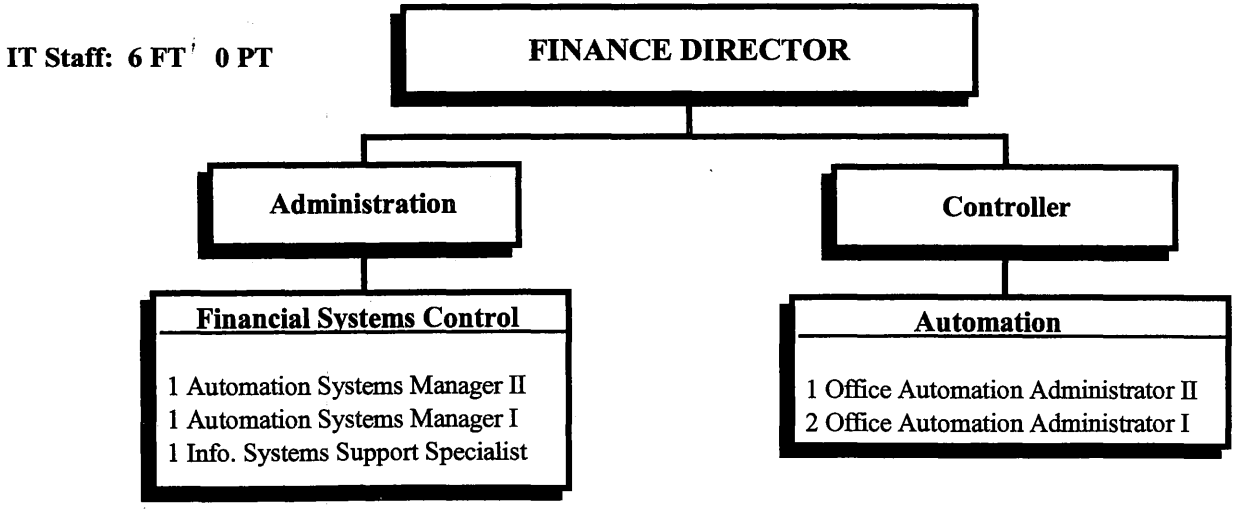
IT Staff: 8 FT 1 PT



IT Organization and Staffing in the Montgomery County Circuit Court - FY 2000



IT Organization and Staffing in the Montgomery County Department of Finance - FY 2000



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Chapter V

HENNEPIN COUNTY, MINNESOTA

A. BACKGROUND 72

B. IT ORGANIZATION 72

1. Centralized IT Staff 73

2. Decentralized IT Staff 75

C. IT FUNCTIONS 75

D. QUESTIONS AND ADDITIONAL INFORMATION 76

E. SUMMARY CHARTS AND TABLES 82

V HENNEPIN COUNTY, MINNESOTA

A. Background

Hennepin County, which encompasses 611 square miles of land area, is the most populated of Minnesota's 87 counties. The year 2000 County population is 1,082,560 residents, representing approximately 23% of the State population.

Hennepin County, incorporated in 1852, includes one of the nation's major metropolitan areas with Minneapolis as its largest city. The County operates under a Board of Commissioners/County Administrator form of government, with policy-making and legislative authority vested in the seven-member Board of Commissioners. The Board hires a County Administrator to oversee day-to-day operations. Board Commissioners hold four-year staggered terms with three or four board members elected every two years (elected by citizens in board members' districts).

Median household income was $43,709 for County residents in 1998. Some of the largest employers in the County include the Minnesota State Government, the University of Minnesota, 3M Company, Northwest Airlines, Dayton Hudson Corporation, Honeywell, Inc., West Information Publishing Group, and Target.

Hennepin County government services include: public safety, health and human services, public libraries, economic assistance, planning and development, employment assistance, public works and transportation, community health, and the district court operations. For FY 2000, the Board of Commissioners appropriated $1.5 billion to programs and initiatives and authorized 10,960 full-time equivalent employee positions.

An organization chart of the Hennepin County Government is located at page 84.

B. IT Organization

The Hennepin County Information Technology Department (ITD) was formed in the early 1970s. With the introduction of personal computers and distributed computing in the mid-to-late 1980s, several County departments and offices began adding IT employees to service the departments' specific computing needs.

Hennepin County maintains a hybrid IT organizational structure, with 197.0 full-time equivalent IT positions in ITD, 25.0 full-time equivalent IT positions in the Sheriff Department, and 281.8 full-time equivalent IT staff located in other departments and offices.

ITD and other departments and offices sometimes contract with private sector IT professionals to augment staff or to fill positions temporarily. Currently, ITD contracts out 10 percent of its IT consulting and 10 percent of its systems development activities.

1. Centralized IT Staff

For FY 2000, ITD was authorized 279.5 full-time equivalent (FTE) positions (IT positions = 197.0 FTE). Of the total ITD positions, 35.5 FTE positions provide printing and mail services, and another 47.0 FTE positions throughout the department provide administrative support and computer training. On December 21, 1999, six of the IT positions in ITD remained unfilled, resulting in a vacancy rate of 3.1 percent for IT positions in the Department.

The FY 2000 operating budget for ITD was $49.3 million, which included $8.0 million for printing and mail services, and about $10.5 million for capital depreciation expenses. The net FY 2000 appropriation to fund the Department's IT activities was approximately $30.8 million

ITD staff manage all of the County's major IT functions except for radios. Radio operations and maintenance are handled by 25.0 full-time IT staff centralized in the Sheriff Department.

Hennepin County uses a chargeback system to recover expenses for most of the IT Operations Division. The charges to the various user departments and offices include services for Lotus Notes administration, records management, helpline, remote equipment support, data communications, and Local Area Network services and support.

Below is a list of ITD's organizational units on January 1, 2000.

Administration (13.0 full-time equivalent positions)

Operations Division (147.5 full-time equivalent positions)

Development Division (119.0 full-time equivalent positions)

The **IT Administrative Office** contains three units.

- The *Office of the Chief Information Officer* is responsible for increasing coordination in the delivery of IT services and for pursuing tight integration between the County's business needs and IT initiatives. This office works closely with two IT governance bodies: the IT Governance Board (composed of executives from several business sectors) and the IT Advisory Council (composed of the top technology manager from each County department).
- The *Computer Training and Technical Communication Unit* provides employee training for major computer applications used throughout the County. The training group is responsible for introducing a County-wide on-line computer training program that allows employees to take training on several applications from their own desktop computers. An estimated 4,000 County employees attended training sessions during 1999
- The *Technical Communications Unit* provides technical and end-user documentation associated with the deployment and utilization of computer systems (user guides, quick reference guides, training guides). This group is also developing Internet and Intranet web pages for the County.

The **IT Operations Division** is organized into five units.

- The *Administrative Support Unit* provides fiscal management and budget assistance to the entire department. This unit makes a Countywide impact through setting rates and billing for various types of IT services as well as processing all orders for personal computer hardware and software.

- The *Technical Services Unit* operates 7 days/24 hours and supports the County's mainframe, server, and network infrastructure. This unit connects almost 14,000 computing devices. Three major initiatives currently undertaken by this unit include implementation of coordinated help desk software, increased efficiencies in the desktop support area through automated software distribution tools, and the introduction of desktop management as a billable service to operating departments.

- *The Central Services Unit* administers the County's mail delivery system, shipping and receiving, and graphic services (photocopying and printing). This unit interacts with every program area in the County, handling almost twelve million pieces of incoming and outgoing mail per year and producing 33 million printed impressions per year. The unit contains no IT positions.

- *The Communications Unit* provides voice and telecommunication services for the County. Currently this unit is enhancing its voice communications systems and is planning to deploy integrated electronic mail, voice, and fax applications to make communication functions more cost-effective.

- *Production/Customer Services Unit* schedules production jobs on the County's mainframe computer, implements computer security systems, manages data privacy and records, and operates the County's main helpdesk to resolve any computer related problems.

The **IT Development Division** is organized into four functional groups, with each responsible for a particular facet in the development and maintenance of computer applications that support the business needs of the County.

- The *Business Group* is organized into four subsections. Each subsection is responsible for developing and maintaining automated systems and for understanding a specific sector of County business (finance, health, etc.) to ensure the unique needs of each sector continue to be well-served by their respective IT systems.

- The *Health Analysis and Design Specialists Group* provides technical analysis and design services for the development of new business applications.

- The *Application Construction Group* provides the programmers for development and enhancement of computer applications.

- The *Application Infrastructure Group* provides expertise in emerging technologies and helps with the design and support of databases.

An organization chart of ITD is located at page 88.

2. Decentralized IT Staff

For FY 2000, Hennepin County approved 281.8 FTE IT positions for departments and offices outside of the centralized IT department. The jurisdiction did not provide any information about IT position vacancies in the departments and offices outside of ITD.

Departments with significant IT staff (5 or more) include:

Sheriff (25.0 full-time equivalent IT positions)
Community Health (11.0 full-time equivalent IT positions)
Adult Services (19.0 full-time equivalent IT positions)
Medical Center (88.0 full-time equivalent IT positions)
Metropolitan Health Plan (14.0 full-time equivalent IT positions)
District Court (11.0 full-time equivalent IT positions)
Transit and Community Works (9.0 full-time equivalent IT positions)
Children and Family Services (24.0 full-time equivalent IT positions)
Community Corrections (19.3 full-time equivalent IT positions)
County Attorney (6.6 full-time equivalent IT positions)
Economic Assistance (33.0 full-time equivalent IT positions)
Training and Employment Assistance (7.0 full-time equivalent IT positions)
Public Libraries (15.6 full-time equivalent IT positions)
Taxpayer Services (5.0 full-time equivalent IT positions)

Organization charts depicting IT positions in most of the departments with five or more IT staff are located at pages 92-100.

C. IT Functions

Hennepin County's IT staff perform a variety of functions. The table on page 76 shows the County's major IT functions, along with ITD's estimate of the amount of centralized and decentralized activities, as well as the County's current outsourcing efforts.

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	10	45	45		
Systems Development	10	45	45		
Systems Maintenance	0	50	50		
Desktop Computer Support	0	10	90	Not provided	Not Provided
Geographic Info. System (GIS)	0	0	100		
Internet	0	50	50		
Intranet	0	50	50		
E-Commerce	0	50	50		
Local Area Network (LAN)	0	100	0	Information not readily available	Information not readily available
Wide Area Network (WAN)	0	100	0		
Server Administration	0	90	10		
Help Desk	0	50	50		
Computer Operations	0	100	0		
Systems Programming	0	100	0	Not provided	Not Provided
Telephone Operations	0	100	0		
Telephone Maintenance	0	100	0		
Radio Operations	0	0	100 *		
Radio Maintenance	0	0	100 *		

*** Responsibility for these functions is centralized in the Sheriff's Office.**

D. Questions and Additional Information

OLO asked the Hennepin County Deputy Chief Information Officer (Deputy CIO) several questions covering the following five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the responses the Deputy CIO provided to OLO.**

General/Organization

1. Who are the main users of your government's IT services?

Response: County employees are the main users of our IT services.

2. How long have you been organized as you are currently, and are there any plans to change the way you are organized?

Response: The central IT department was formed in the early 1970's. Within the Central IT department there has been a formal differentiation between the Operations Division and Development Division since its creation. Several large departments have also employed IT staff since the 1970's to meet their unique data-processing needs. Most other County departments began adding IT staff in the mid-to-late 1980's with the introduction of personal computers and distributed computing.

3. Would any organizational changes improve the quality of your IT services, and what are they?

Response: There are no plans to alter the mix of decentralized and centralized IT staff. By imbedding IT staff within each major department, our hybrid IT organizational structure hopefully promotes a better understanding of the County's business needs while leveraging the application of technology to these needs. We have recently implemented two new governance bodies to increase the coordination between IT groups and better manage IT investments.

Within the Central IT Department, there are plans to reorganize the Development Division. The new Development organization will likely be composed of four units: new application construction, application maintenance, application design, and general business analysis. We have also implemented a new competency center (The Project Support Office) to focus on project management and to provide support to individuals who are assigned this responsibility.

Our County would benefit from greater centralization or standardization in the delivery of desktop support functions. We are currently surveying decentralized IT groups to determine how many IT staff are dedicated to desktop support.

The general perception is that, with greater coordination and uniform adoption of best practices, we could improve the reliability and efficiency of configuring and maintaining computers, and at the same time, provide higher quality and greater consistency with the same number of IT staff.

4. What degree of interaction occurs between central and decentralized IT staff?

Response: There is a reasonably high degree of interaction between groups. In terms of formal communication, local area network/desktop support staff meet twice a month to share information.

Managers from each IT group meet on a monthly basis to recommend standard policies and practices. This manager's group can also convene working committees to research and advise the larger group on technical and/or policy issues.

Central IT "owns and operates" the physical network, application servers, and mainframe services. This "own and operate" function also ensures a fairly high level of interaction between groups and creates a certain level of required coordination in the development of applications. In addition, centralized and decentralized IT staff often collaborate on specific application development projects.

5. What IT initiatives is the county currently working on?

Response: The County's most significant current IT initiatives include:

- 800 Megahertz Radio System
- Internet Development (Web site, e-mail, e-commerce)
- Intranet Development
- Publish IT Standards
- Desktop Computer Modernization
- Enterprise Network Management

Almost all computer in the Hennepin County are on a three-year depreciation cycle and replacements are funded through a standardization leaseback program. While this is routine business for us, approximately one-third of all computers are replaced each year and this requires a substantial amount of time and effort.

IT standards is an ongoing effort or project, but certainly part of our current initiatives. Two governance bodies (the Office of the CIO and the IT Advisory Council) are responsible for policy and standard setting. The Advisory Council is composed of the highest ranking IT person from each County department and is chaired by the Deputy CIO.

Enterprise network management is an ongoing initiative, but we are currently involved in a major network upgrade from Token ring to Fast Ethernet, and in the course of this upgrade, are implementing new network monitoring tools.

We have a mix of new and ongoing initiatives relating to the Internet/e-mail and our Web site, as well as e-commerce. Some of the e-commerce initiatives encompass enhancements to our property tax system. We also have document management applications using File net and Domino.Doc.

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: No specific formulas.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: Based on Gartner Group research, government agencies are typically at the bottom of the food chain in terms of prospective IT employees. We currently do not have a high vacancy rate, but questions could be raised about the quality of staff we have been able to attract and retain.

We recently implemented a new appraisal system for evaluating IT staff based on "Pay for Performance" principles. This new appraisal system incorporates many of the compensation practices found in the private sector—cash payments in addition to base rate increases, an emphasis on results rather than tenure, etc.

We hope that this new appraisal system will stimulate positive changes in existing staff and encourage everyone to continually improve their technical and interpersonal skills. Other general competencies for IT staff include skills in project management, verbal and written communication, and teamwork.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: We have struggled with this question. Certainly, there are scales of economy to operating network and mainframe services centrally. I would include desktop support in these "production" services. One could argue that application construction (programming and application architecture) could be more efficiently provided from a centralized organization.

Business analysis and the ability to understand how technology can be leveraged to achieve business goals definitively requires a high degree of involvement with customer departments, and therefore, is best accomplished from a decentralized presence. Decentralization, in this context, does not necessarily need to imply funded by a non-centralized authority.

We have been pushing for a pooling of IT staff on a sector basis—for example, between all the criminal justice agencies—rather than decentralization down to the individual department basis. This push corresponds to the increased interest on the part of individual departments in "integrated systems" to facilitate greater information sharing between departments that have overlapping clients.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: Many distributed IT groups, as well as the Operations Division of Central IT, have staff that perform IT functions but who have non-IT job titles.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

Response: From the standpoint of production services, ITD has an excellent track record of maintaining a reliable computing environment (network and mainframe). From the perspective of application development services, improvements are needed in the areas of project management and alignment of IT projects to business needs and priorities. An IT Governance Board, composed of top executives in the County, was recently created to help prioritize IT projects and ensure their alignment to County business needs.

11. ***How do you measure whether IT functions are carried out effectively?***

Response: Surveys are used to gauge customer satisfaction with IT services. Monthly reviews of expenditures and revenue information are conducted to identify problem areas and generate plans for improvement. Our funding mechanism (through chargebacks) is also designed to promote a high level of accountability.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: Most IT services have multiple "customers," and determining the weight to be given to these multiple constituencies is often a problem. Identifying standard, repeatable metrics and getting all IT groups to use them in measuring success is another complicating factor.

13. Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?

Response: Yes, we have conducted annual surveys and frequently conduct "engagement-specific" surveys. The question on results is too broad to draw conclusions about employee satisfaction.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: The same obstacles faced by other governmental entities: knowing what to measure, how to measure, how to move beyond lip service, and how to utilize this type of information for decision-making.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: Thus far, outsourcing has been on a staff augmentation basis. The decision to outsource is determined by need and the availability of funding.

16. What degree of interaction occurs between IT staff and contractors?

Response: Depends on the project. Typically, there is a high level of interaction between IT staff and contractors with an emphasis on knowledge transfer.

17. What benefits/problems occurred as a result of outsourcing?

Response: Obvious benefit of expediting specific projects and activities.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: Not outsourcing any activities once provided by in-house staff.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response:

Areas of Growth:

Business analysis- the ability to productively apply technology.

E-commerce- greater efficiency will flow to and from service providers (e.g. treatment facilities, day care providers, etc.).

Areas of Decline:

Application construction skills/programming with enhancements to tool sets provided by software vendors.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: There is no generic answer to this question. Outsourcing decisions on a functional basis are very time-specific and organization-specific- it depends on where your organization is, where you want to be, and how outsourcing can be leveraged to expedite this type of change

21. When integrating/ implementing newer IT functions into your IT organization, what issues arose?

Response: No response.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Hennepin County chapter. Several charts and tables are included.

- *Hennepin County Profile* 83

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget.

- *Hennepin County Government Organization Chart* 84

  Shows the current organization by functional area.

- *Hennepin County Government IT Organization Profile* 85

  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions that ITD employees perform or manage, and a list of departments in the County having five or more IT positions.

- *Hennepin County Government IT Organization Chart* 86

  Shows the number and location of IT staff in the various departments and offices that ITD supports.

- *Table of IT Positions by Department* 87

  Supplements the Hennepin County Government IT Organization Chart, showing details of IT staff in the departments and offices that ITD supports.

- *Organization Chart of the Information Technology Department* 88

  Shows the overall organization and staffing in the divisions and offices of the Hennepin County IT department.

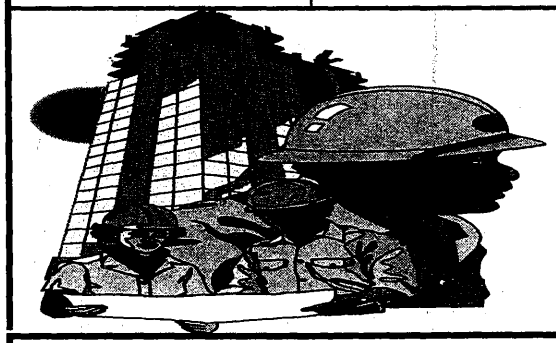
- *Hennepin County ITD Approved Staffing- FY 2000* 89

  Shows the high level organization of IT staffing in the divisions and offices of the IT department.

- *Organization Charts of Other Departments with Significant IT Staff* ..... 92 - 100

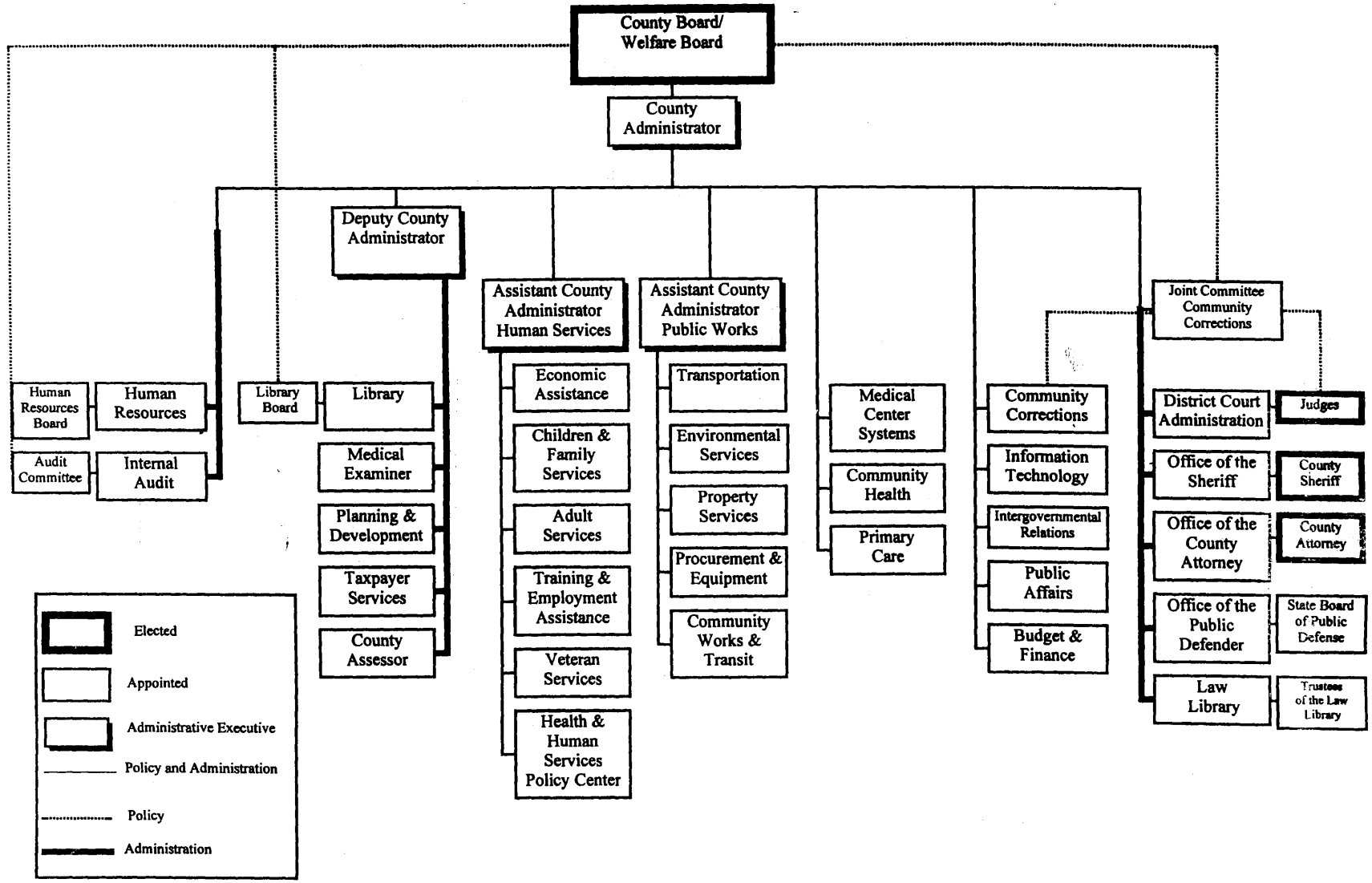
  Shows staffing in several of the departments and offices having five or more full-time IT staff (outside of the IT department).

Profile of Hennepin County, Minnesota

Estimated Population	**1,082,560 (2000)**	**Largest Employers**	**State Government University of Minnesota 3M Company Northwest Airlines Dayton Hudson, Corp. Honeywell, Inc. West Info. Publishing Target**
County Area (Square Miles)	**611**		
County Income (Median Household)	**$43,709 (1998)**	**County Operating Budget***	**$1.50 billion (FY 2000)**
		**Employees Supported by the Information Technology Department (ITD)**	**10,960 Full-Time Equivalent (FY 2000)**
Form of Government: Elected Board of Commissioners / Appointed Administrator			
Central Government Functions	**Public Safety, Health and Human Services, Libraries, Planning and Development, Public Works, District Court, and General Government**		

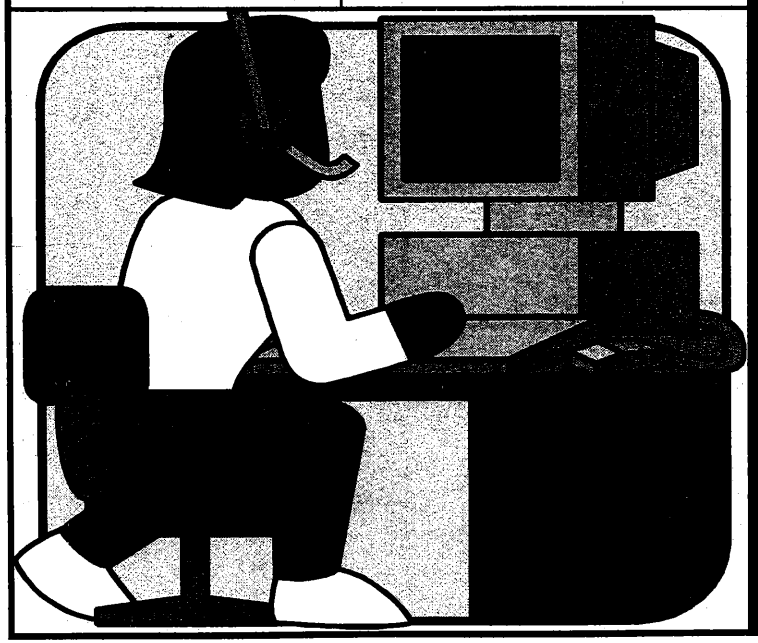
* Represents appropriations for the Executive and Legislative branches as well as debt service payments.

Organization Chart of Hennepin County, Minnesota Government



Hennepin County, Minnesota
IT Organization Profile FY 2000

IT Organization Structure	**Hybrid (43% centralized)**
Total IT Positions	**492.8 Full-Time Equivalent**
IT Position Groups	**Centralized 211.0 FTE** / **Decentralized 281.8 FTE**
Central IT Department Operating Budget	**$30,840,815** (excluding depreciation costs, and mail and printing services)



IT Department Functions

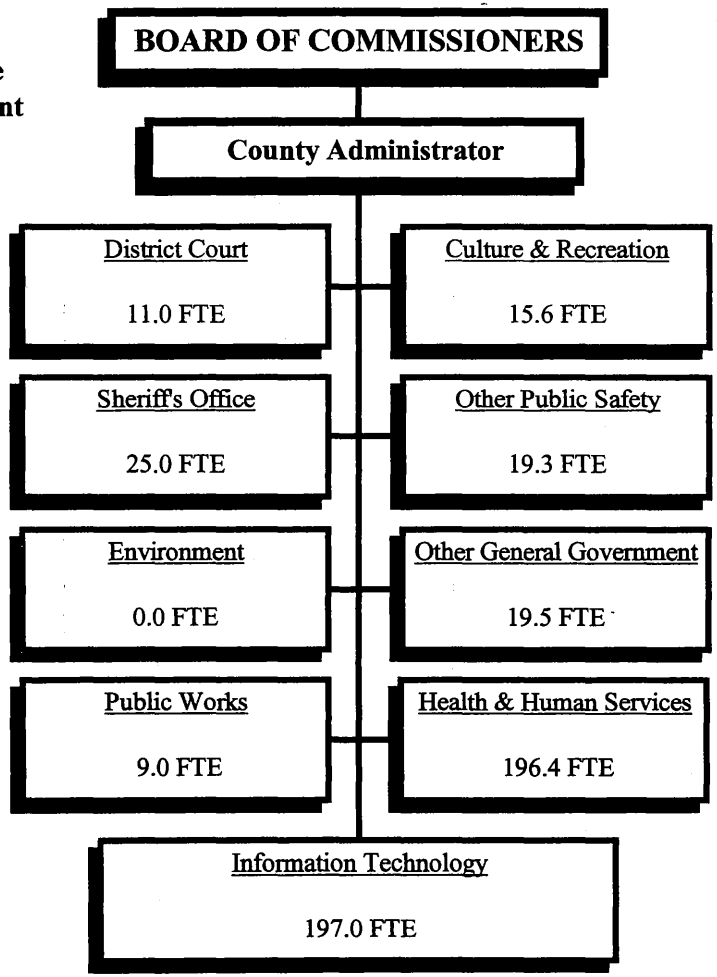
- Internet
- Intranet
- Help Desk
- E-Commerce
- IT Consulting
- Server Administration
- Computer Operations
- Telephone Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Telephone Maintenance
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support

Departments Having Five or More IT Positions

- Sheriff
- Community Corrections
- Children and Family Services
- Community Health
- County Attorney
- District Court
- Economic Assistance,
- Libraries
- Medical Center,
- Metropolitan Health Plan,
- Transit/Community Works
- Adult Services
- Taxpayer Services
- Training and Employment Assistance

Approved IT Positions in Hennepin County Government FY 2000
By Functional Area

Total IT Staff: 492.8 Full-Time Equivalent



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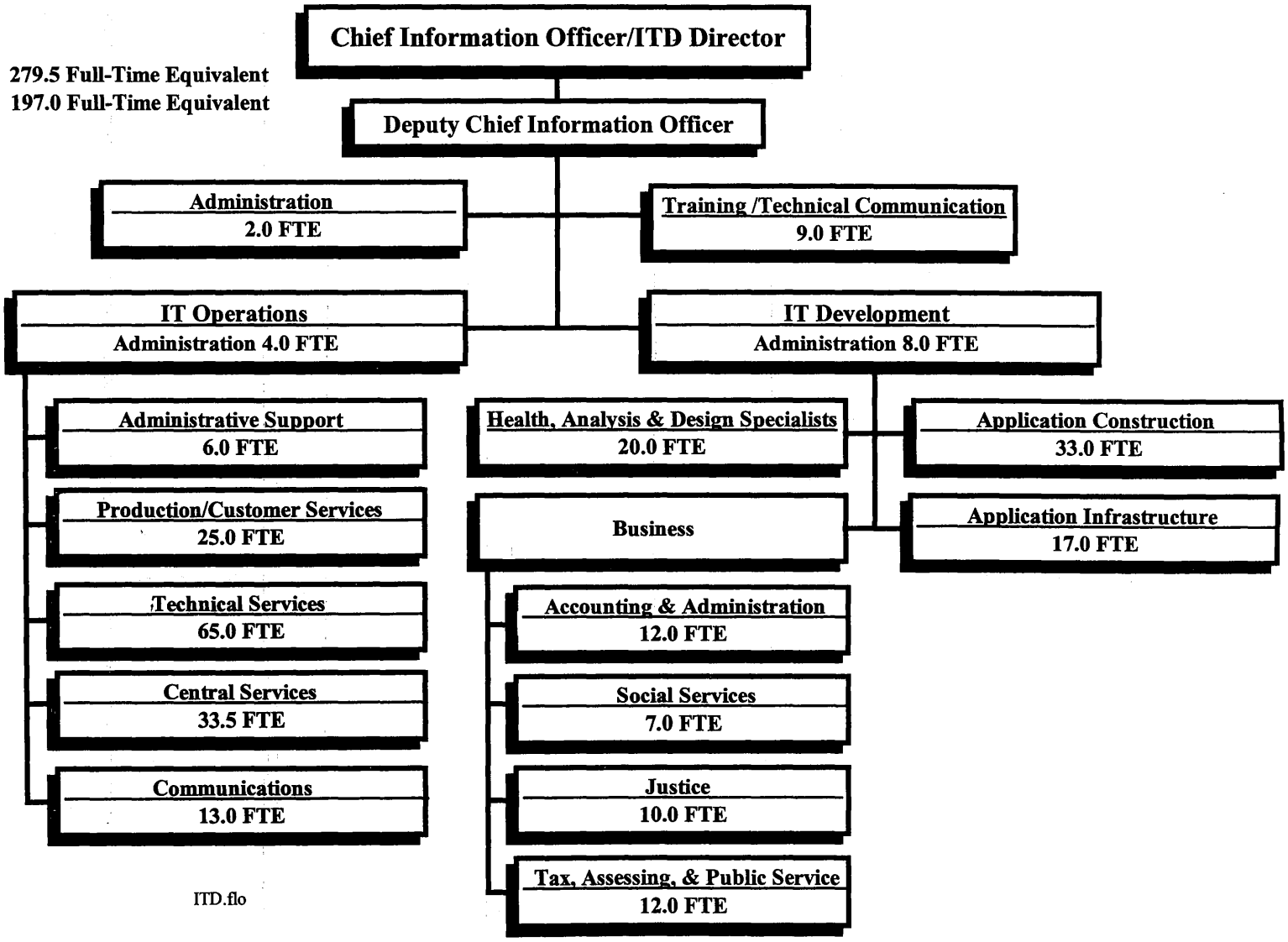
Detail by department begins on the next page.

FY 2000 APPROVED IT STAFFING	IT FULL TIME EQUIVALENT	PART-TIME IT POSITIONS	OTHER IT POSITIONS	TOTAL FTE IT POSITIONS
ADMINISTRATION				
General Government		Detail Not Available	Detail Not Available	*216.5 FTE*
County Assessor	2.0			
Human Resources	3.9			
Information Technology	197.0			
Budget and Finance	1.0			
Planning and Development	1.0			
Taxpayer Services	5.0			
County Attorney	6.6			
Culture & Recreation		Detail Not Available	Detail Not Available	*15.6 FTE*
Public Libraries	15.6			
District Court		Detail Not Available	Detail Not Available	*11.0 FTE*
District Court	11.0			
Sheriff's Office		Detail Not Available	Detail Not Available	*25.0 FTE*
Sheriff	25.0			
Other Public Safety		Detail Not Available	Detail Not Available	*19.3 FTE*
Community Corrections	19.3			
Public Works		Detail Not Available	Detail Not Available	*9.0 FTE*
Transit and Community Works	9.0			
Health & Human Services		Detail Not Available	Detail Not Available	*196.4 FTE*
Adult Services	19.0			
Children and Family Services	24.0			
Economic Assistance	33.0			
Health and Human Services	0.4			
Medical Center	88.0			
Metropolitan Health Plan	14.0			
Training and Employment Assistance	7.0			
Community Health	11.0			
TOTAL IT FULL TIME EQUIVALENT POSITIONS	**492.8**	**This Detail Not Available**		**492.8**

IT Organization and Staffing in the Hennepin County Information Technology Department – FY 2000

Total Staff: 279.5 Full-Time Equivalent
IT Staff: 197.0 Full-Time Equivalent



ITD.flo

Detail of ITD staffing within organizational unit begins on the next page

Hennepin County Information Technology Department Approved Staffing- FY 2000

Administration

1 Chief Information Officer/Director
1 Deputy Chief Information Officer
1 Senior Administrative Assistant
1 Principal Administrative Assistant
1 Consulting IT Specialist
1 Administrative Secretary (PT)

Training & Technical Communications

1 Training Supervisor
4 Technical Writer
1 Administrative Assistant
1 Office Specialist III

Development Division

1 Senior Administrative Assistant
1 Consulting IT Specialist

Support Services

1 Senior Support Services Supervisor
1 Principal Office Specialist
1 Office Specialist III
1 Office Specialist I

Accounting & Administration

1 IT Manager
4 Principal Information Technology Specialist
1 Information Technology Supervisor
6 Principal Information Technology Specialist

Health, Analysis & Design Specialists

1 Senior Information Technology Specialist
1 Information Technology Specialist

Justice

1 IT Manager
1 Principal Information Technology Specialist
1 Information Technology Supervisor
1 Senior Systems Software Programmer
1 Senior Information Technology Specialist
6 Principal Information Technology Specialist
1 Information Technology Specialist

Analyst Resources

1 Senior Information Technology Specialist
4 Principal Information Technology Specialist

Social Services & Health

1 IT Manager
5 Principal Information Technology Specialist
1 Consulting IT Specialist

Analyst Resources

1 Information Technology Supervisor
5 Senior Information Technology Specialist
1 Principal Information Technology Specialist
2 Information Technology Specialist
1 Associate IT Specialist

Tax Assessing & Public Service

1 IT Manager
1 Principal Information Technology Specialist
1 Information Technology Supervisor
1 Senior Information Technology Specialist
4 Principal Information Technology Specialist

Public Works - Medina

1 Senior Information Technology Specialist
3 Principal Information Technology Specialist

Hennepin County Information Technology Department Approved Staffing - FY 2000 (continued)

Development Division (continued)

Application Construction
1 IT Manager

Application Construction – Group I
1 Information Technology Supervisor
2 Senior Information Technology Specialist
8 Information Technology Specialist

Application Construction – Group II
1 Information Technology Supervisor
5 Senior Information Technology Specialist
3 Principal Information Technology Specialist
2 Information Technology Specialist

Application Construction – Group III
1 Information Technology Supervisor
2 Senior Information Technology Specialist
3 Principal Information Technology Specialist
3 Information Technology Specialist

Application Infrastructure
1 IT Manager

Imaging
2 Principal Information Technology Specialist

IS Data Management
1 IT Technical Services Supervisor
2 Senior Systems Software Programmer
2 Principal Systems Software Programmer
1 Systems Software Programmer
2 Principal Information Technology Specialist

Product Usability
1 IT Technical Services Supervisor
2 Senior Systems Software Programmer
3 Principal Systems Software Programmer

Operations Division

1 IT Division Manager

Administration/Support
1 Business Services Officer
2 Senior Accountant
1 Principal Office Specialist
2 Office Specialist III
1 Administrative Secretary
2 Office Specialist III

Production & Customer Service
1 IT Manager

Lotus Notes Administration
1 Senior Information Technology Specialist
1 Information Technology Specialist

Production Services
1 Operations Analyst Supervisor
2 Network/Operations Technical Specialist
2 Public Service Assistant
1 Operations Analyst
2 Assistant Operations Analyst
2 Office Specialist II
1 Office Specialist I

Contingency/Security/Records Mgmt/Helpline
1 Administrative Manager
2 Senior Planning Analyst
1 Operations Analyst
1 Assistant Operations Analyst
2 Senior Information Technology Specialist
1 Associate Information Technology Specialist
1 Office Specialist III

Hennepin County Information Technology Department Approved Staffing - FY 2000 (continued)

Operations Division (continued)

Communications & Telecommunications
1 Telephone Communications Manager
1 Communication Systems Specialist
1 Communication Systems Specialist
1 Operations Analyst
2 Principal Office Specialist
1 Office Specialist III
1 Senior Support Services Supervisor
5 Office Specialist II (one position is off-site)

Equipment Operations
1 Data Center Manager

Network
1 Systems Software Programmer

Shift 1 Days
1 Shift Supervisor
1 Operations Analyst
1 Network/Operations Technical Specialist
1 Computer Operator

Shift 2 Nights
1 Shift Supervisor
2 Operations Analyst
1 Computer Operator

Shift 3 Days
1 Shift Supervisor
2 Operations Analyst
1 Computer Operator

Shift 4 Nights
1 Shift Supervisor
1 Operations Analyst
2 Computer Operator

Central Services
1 Central Services Manager
1 Principal Office Specialist

Mail Center
15 non-IT positions

Receiving & Distribution
6 non-IT positions

Document Production
9 non-IT positions

Technical Services
1 IT Technical Services Manager

Remote Equipment Support
1 Operations Analyst Supervisor
5 Operations Analyst
2 Assistant Operations Analyst
1 Network/Operations Technical Specialist

Data Communications
1 IT Technical Services Supervisor
5 Senior Systems Software Programmer
2 Principal Systems Software Programmer

Planning & Operating Systems Support
1 IT Technical Services Supervisor

Planning & Support
2 Senior Systems Software Programmer
1 Principal Systems Software Programmer

Operating System Support
1 Senior Systems Software Programmer
2 Principal Systems Software Programmer
1 Systems Software Programmer

Local Area Network Services
1 IT Manager

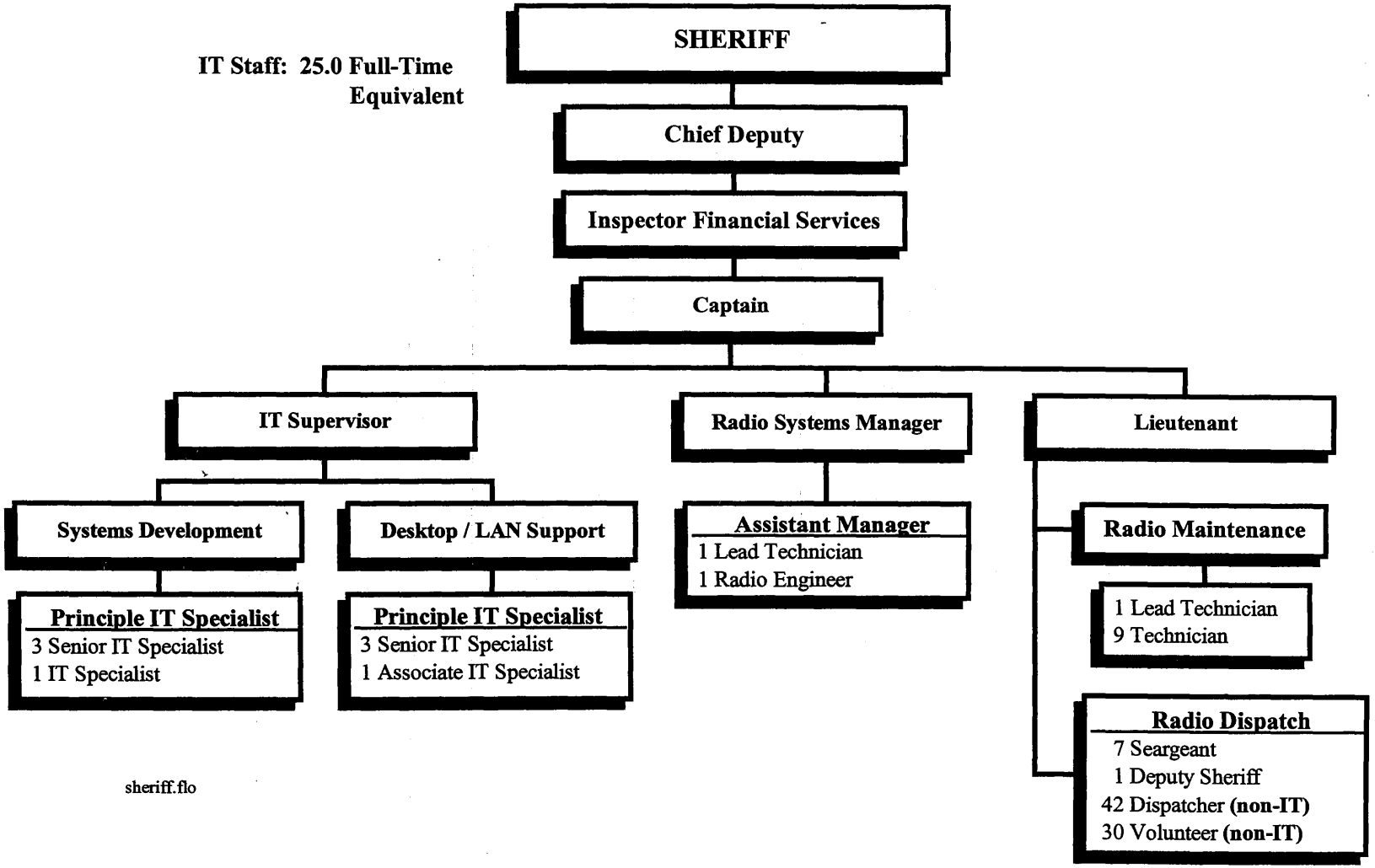
LAN Services Team
1 IT Technical Services Supervisor
6 Senior Systems Software Programmer
2 Principal Systems Software Programmer

LAN Services Department Support Admin. Team
1 IT Technical Services Supervisor
1 Operations Analyst
1 Senior Systems Software Programmer
2 Senior Information Technology Specialist
3 Principal Information Technology Specialist
1 Information Technology Specialist
1 Associate Information Technology Specialist

Total Positions = 269.5 Full-Time Equivalent
IT Positions = 197.0 Full-Time Equivalent
Ten vacant positions are not included in Total Positions

IT Organization and Staffing in the Hennepin County Sheriff's Office – FY 2000

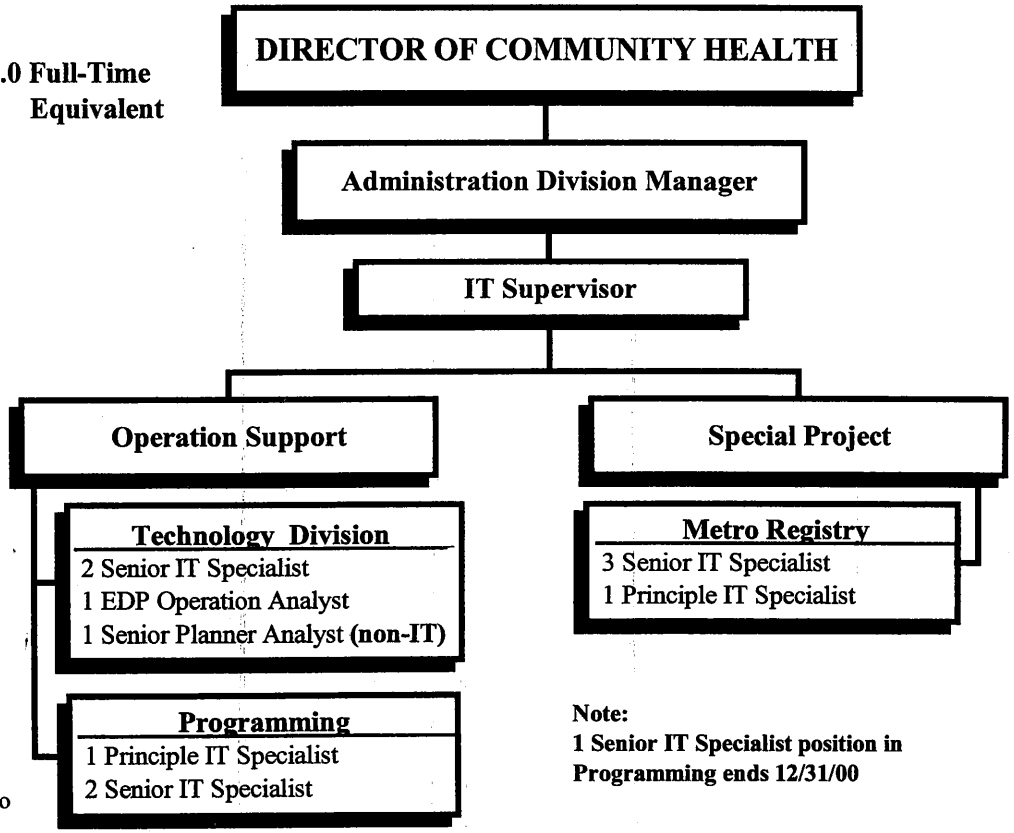
IT Staff: 25.0 Full-Time Equivalent



sheriff.flo

IT Organization and Staffing in the Hennepin County Department of Community Health – March 2000

IT Staff: 11.0 Full-Time Equivalent

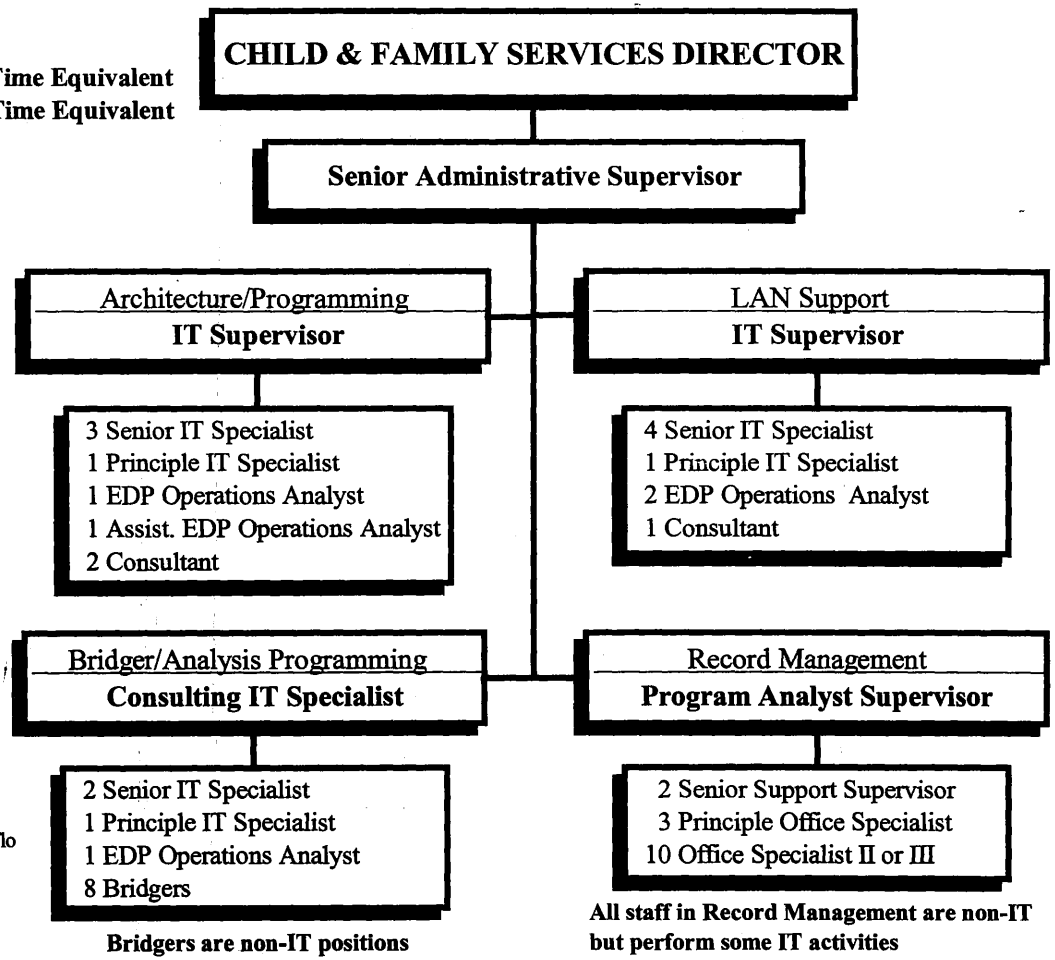


Note:
1 Senior IT Specialist position in Programming ends 12/31/00

Comhealth.flo

IT Organization and Staffing in the Hennepin County Children and Family Services Department – FY 2000

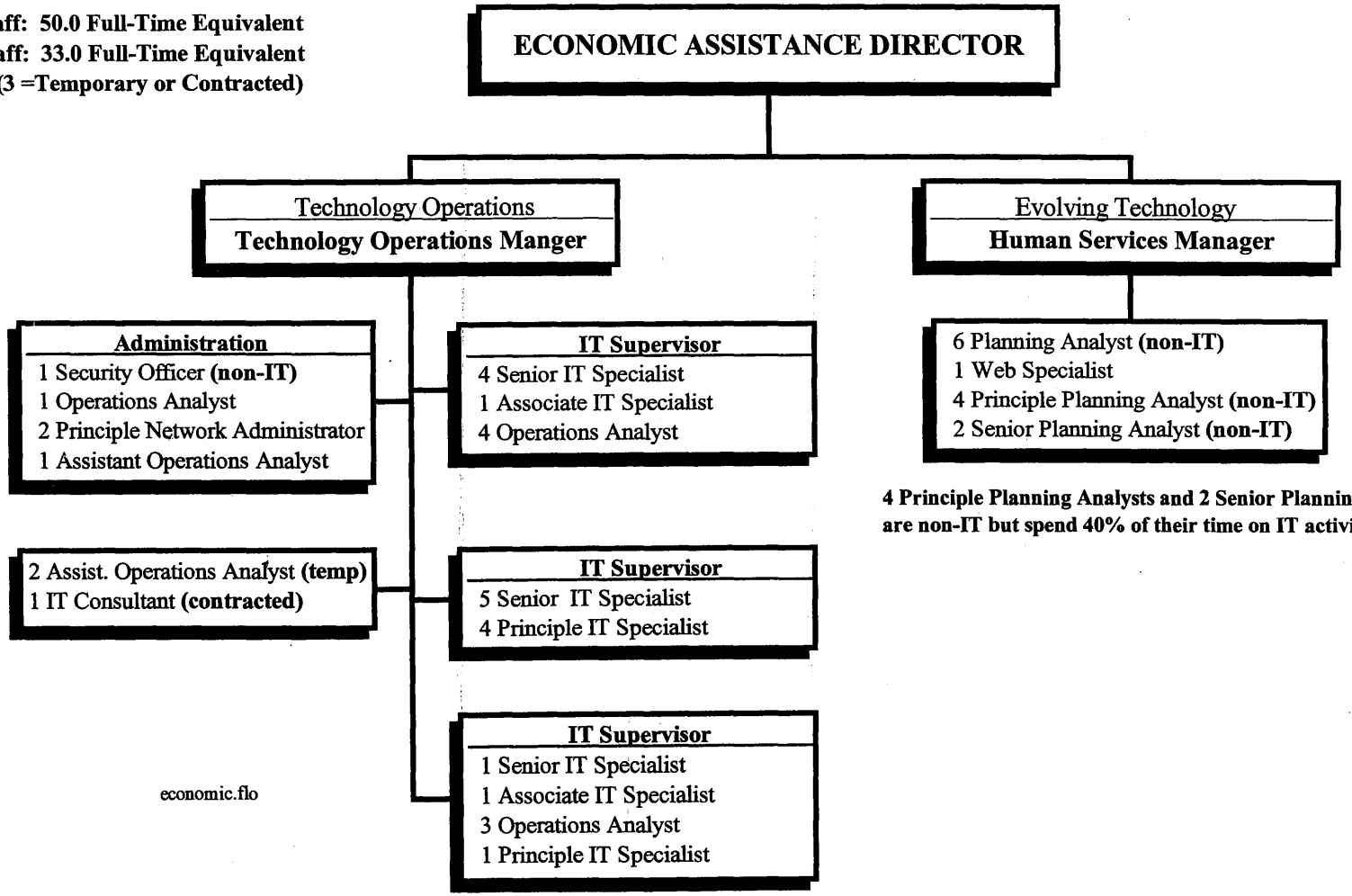
Total Staff: 48.0 Full-Time Equivalent
IT Staff: 24.0 Full-Time Equivalent



economic.flo

IT Organization and Staffing in the Hennepin County Economic Assistance Department – FY 2000

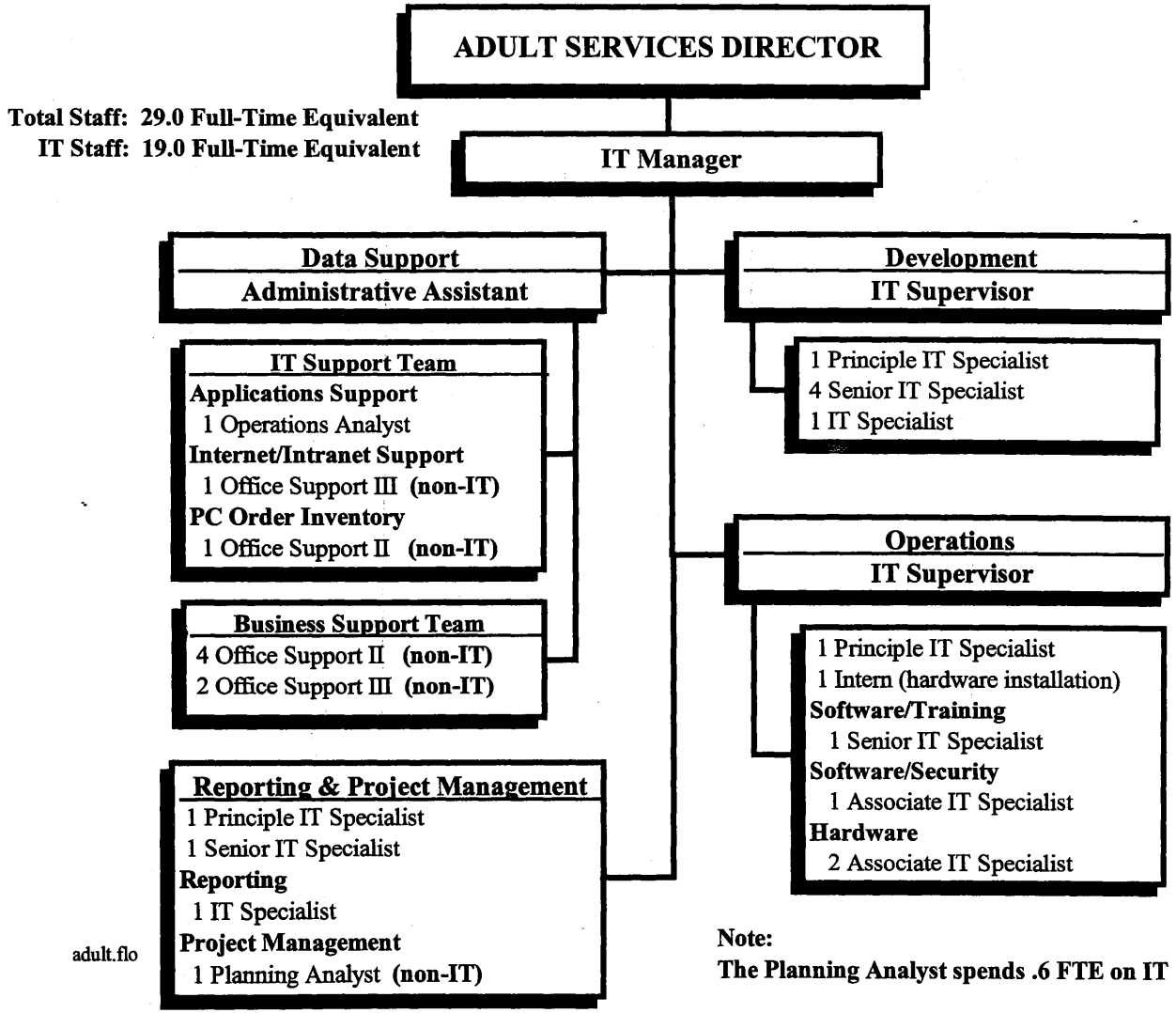
Total Staff: 50.0 Full-Time Equivalent
IT Staff: 33.0 Full-Time Equivalent
(3 =Temporary or Contracted)



4 Principle Planning Analysts and 2 Senior Planning Analysts are non-IT but spend 40% of their time on IT activities.

economic.flo

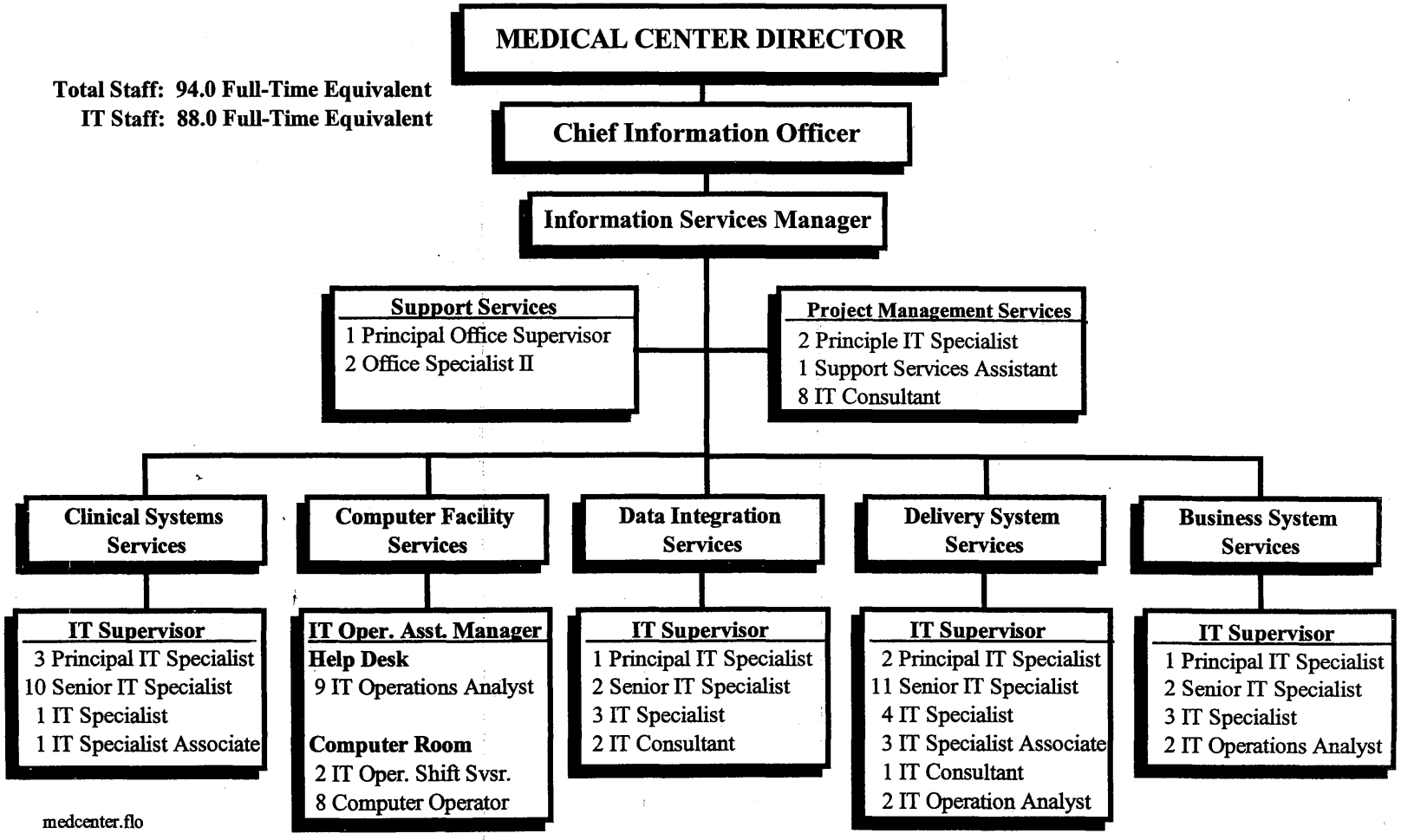
IT Organization and Staffing in the Hennepin County Adult Services Department – FY 2000



adult.flo

IT Organization and Staffing in the Hennepin County Medical Center – FY 2000

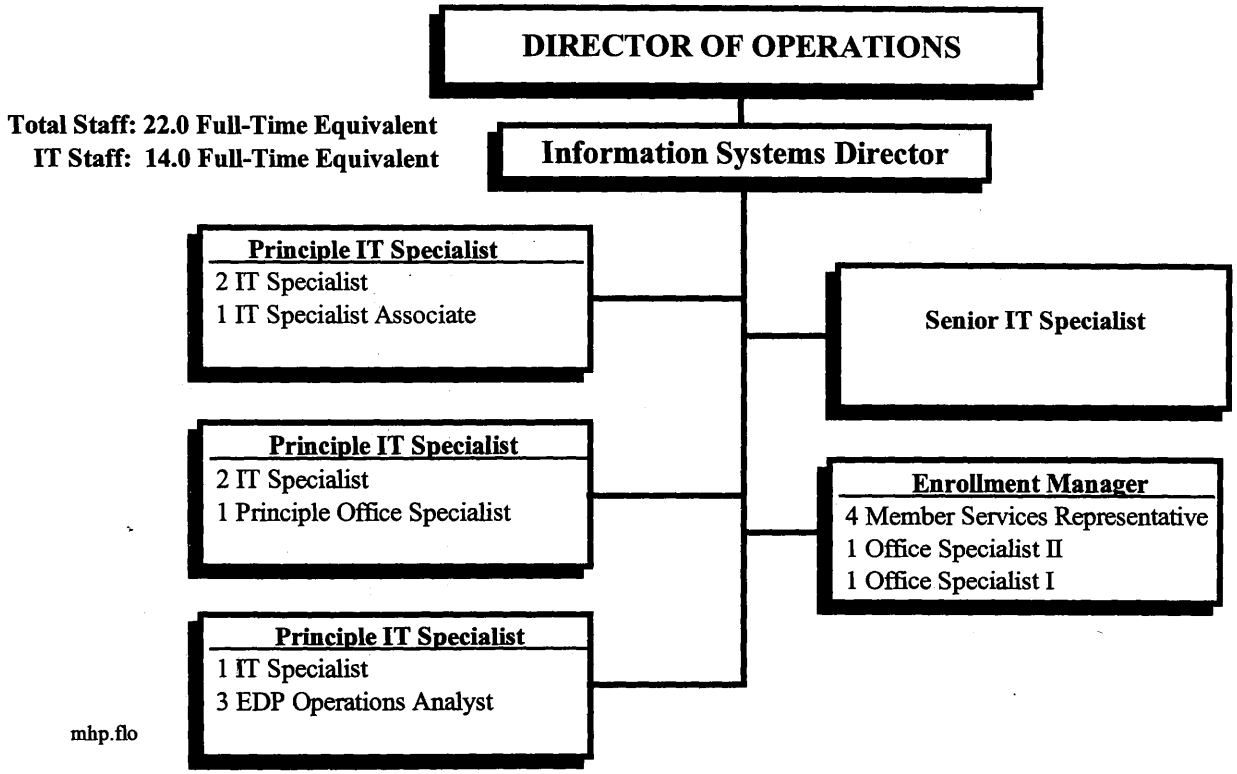
Total Staff: 94.0 Full-Time Equivalent
IT Staff: 88.0 Full-Time Equivalent



medcenter.flo

Notes:
2 IT Operations Analysts (Help Desk) each work half-time
2 Computer Operators (Computer Room) each work half-time

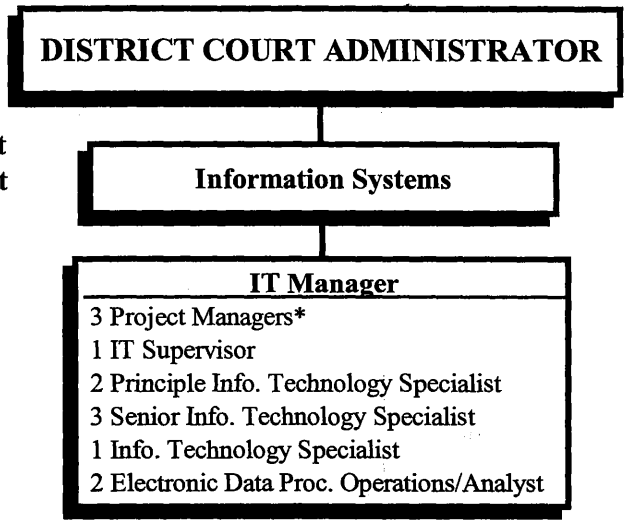
IT Organization and Staffing in the Hennepin County Metropolitan Health Plan– FY 2000



Note: 1 Principle Office Specialist is non-IT but spends most of the time performing IT activities.

IT Organization and Staffing in the Hennepin County District Court – FY 2000

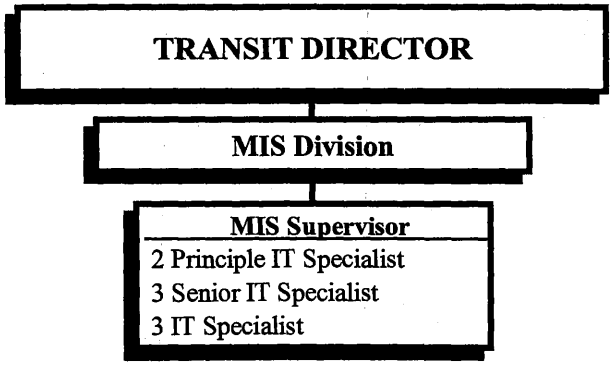
Total Staff: 13.0 Full-Time Equivalent
IT Staff: 11.0 Full-Time Equivalent



***2 Project Managers perform non-IT functions**

IT Organization and Staffing in the Hennepin County Department of Transit and Community Works – FY 2000

IT Staff: 9.0 Full-Time Equivalent

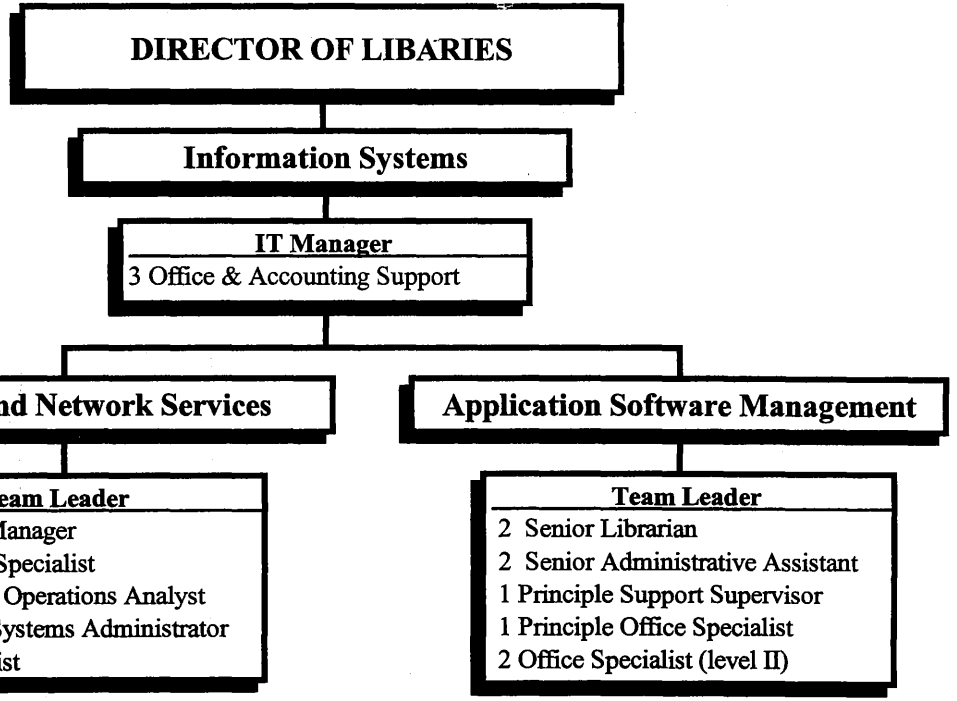


TranCommworks.flo

Note: MIS Division supports several departments in addition to Transit and Community Works

IT Organization and Staffing in the Hennepin County Department of Public Libraries – FY 2000

Total Staff: 28.0 Full-Time Equivalent
IT Staff: 15.6 Full-Time Equivalent



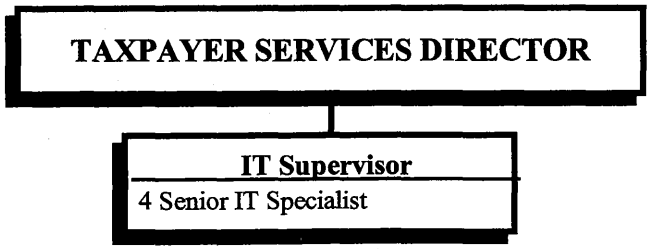
library.flo

Note: 1 Senior IT Specialist spends .4 FTE on non-IT work.

Note: All staff in Application Software Management Division are non-IT positions but perform mostly IT activities.

IT Organization and Staffing in the Hennepin County Department of Taxpayer Services – FY 2000

IT Staff: 5.0 Full-Time Equivalent



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Chapter VI

BALTIMORE COUNTY, MARYLAND

A. BACKGROUND 101

B. IT ORGANIZATION 101

1. Centralized IT Staff 102

2. Decentralized IT Staff 103

C. IT FUNCTIONS 103

D. QUESTIONS AND ADDITIONAL INFORMATION 104

E. SUMMARY CHARTS AND TABLES 108

VI BALTIMORE COUNTY, MARYLAND

A. Background

Baltimore County's population for FY 2000 is approximately 724,675 residents. The County is located in the center of the State of Maryland and includes 612 square miles of land area.

Baltimore County was established under home rule charter in 1957, with separate legislative and executive branches of government. Legislative power is vested in an elected County Council and executive power in an elected County Executive. Terms for the County Council and the County Executive are four years. The County Executive may only serve two consecutive terms in office, and Council members have no term limits.

Median household income was estimated at $48,600 for County residents in 1997. Some of the largest employers in Baltimore County include the AAI Corporation, Engineering Services, Integrated Logistics Support Division, Blue Cross-Blue Shield of Maryland, Sweetheart Cup Company, Inc., Foodarama Incorporated, Northwest Health Systems, Inc., Greater Baltimore Medical Center, and Sheppard Pratt Hospital.

Baltimore County government services include: environmental protection, circuit court operations, public safety, public works, health, parks and recreation, social services, economic development, liquor licensing, and other general government services. For FY 2000, the County Council appropriated $1.7 billion to programs and initiatives.

An organization chart of the Baltimore County Government is located at page 110.

B. IT Organization

Baltimore County maintains a hybrid IT organizational structure. There are 74.5 full-time equivalent IT employees in the Office of Information Technology (OIT), 35.0 full-time equivalent IT staff in the Electronic Services and Telecommunications Division of the Office of Budget and Finance, and an estimated 50.0 full-time equivalent IT staff in other departments and offices.

OIT and the other departments retain a number of temporary and contractual IT professionals from time to time for special IT projects and initiatives throughout the County. For instance, OIT backs up its in-house staff through contractual agreements that provide on-call technical support for several functions.

Baltimore County contracts out portions of several other IT functions, such as: systems development, systems maintenance, desktop computer support, internet, local area network, wide area network, systems programming, records management, and Year 2000 remediation.

1. Centralized IT Staff

The FY 2000 operating budget for OIT was $6.9 million, which included funding for 94.0 full-time equivalent positions (IT positions = 74.5 FTE). Of the total OIT positions, 13.5 FTE provide printing services and 6.0 FTE perform administrative functions.

Electronic Services and Telecommunications, a division of the Office of Budget and Finance, handles all of the County's radio maintenance, radio operations, telephone maintenance, and telephone operations activities. For FY 2000, there were 35.0 full-time equivalent IT positions responsible for telephone and radio services. An organization chart of IT positions in the Electronic Services and Telecommunications Division is located at page 114.

On January 1, 2000, OIT had ten vacant IT positions yielding a 13.4 percent IT vacancy rate in the Department.

Below is a list of OIT's organizational units as of January 1, 2000.

Chief Information Officer (1.0 full-time equivalent positions)

Administration (6.0 full-time equivalent positions)

Customer Services (12.0 full-time equivalent positions)

Network Services (11.0 full-time equivalent positions)

Geographic Information Systems (4.0 full-time equivalent positions)

Computer Operations (16.0 full-time equivalent positions))

Technical Services (7.0 full-time equivalent positions)

Applications Development (21.0 full-time equivalent positions, including 5.0 full-time equivalent contractual positions)

Central Printing (13.5 full-time equivalent positions)

Computer Training (2.5 full-time equivalent positions)

- The *Administration Division* develops the annual work program and budget, plans and evaluates special initiatives, guides the divisions in implementing their programs, and provides other administrative support.
- The *Customer Services Division* assists all departments in the County experiencing IT related problems. This division channels service requests to the appropriate IT division for fast remediation.
- The *Network Services Division* maintains and develops the County's WAN (Wide Area Network) system, enhancing the County's "information sharing" capabilities.
- The *Geographic Information Systems Division* gives technical support to GIS users and performs data control for the County's computer networks.
- The *Computer Operations Division* operates the County's mainframe and CAD computer systems. This division operates 7 days 24 hours to ensure data processing runs efficiently.

- The *Technical Services Division* maintains and updates the County's computer software.
- The *Applications Development Division* maintains the County's financial, budget, payroll, personnel, and purchasing applications that run on the County's mainframe computer system. Maintenance of these applications is critical to the operation of County departments.
- The Central Printing Division handles all reproduction and printing for County government, including documents, blueprints, brochures, pamphlets, the budget book, the County telephone directory, and more. This division also manages the Baltimore County web site.
- The Computer Training Division provides customized, technical training to County agencies through instructor-lead courses and computer based training at the Computer Training Center labs, as well as satellite locations throughout the County to meet the needs of each department and agency.

An organization chart of OIT for FY 2000 is located at page 112. The restructructured organization chart of OIT for FY 2001 is located at page 113.

2. Decentralized IT Staff

OLO's contacts in Baltimore County government did not know the number of IT positions approved for departments and offices (other than OIT). OIT estimates there are approximately 50 full-time equivalent IT positions in departments and offices other than OIT. The Director of OIT estimated that about ten IT positions remained vacant in the other departments and offices on January 1, 2000 (yielding an approximate 15.4 percent vacancy rate).

Departments known to have significant IT staff (five or more) include:

Budget and Finance (35.0 full-time equivalent IT positions
Police Department (15.0 full-time equivalent IT positions)
Environmental Protection (5.0 full-time equivalent IT positions)
Social Services (8.0 full-time equivalent IT positions)

Organization charts depicting IT positions in each department known to have five or more IT staff are located at pages 114- 116.

C. IT Functions

Baltimore County's IT staff perform a variety of IT functions. The table on page 104 shows the County's major IT functions, along with OIT's estimate of the amount of centralized, decentralized, contracted staff, and outsourced activities:

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	0	0	0	0	0
Systems Development	30	60	10	5	1
Systems Maintenance	10	80	10		
Desktop Computer Support	20	50	30	0	0
Geographic Info. System (GIS)	0	60	40	0	0
Internet	50	50	0	0	0
Intranet	0	0	0	0	0
E-Commerce	0	0	0	0	0
Local Area Network (LAN)	10	90	0	0	0
Wide Area Network (WAN)	10	90	0	0	0
Server Administration	0	70	30	0	0
Help Desk	0	100	0	0	0
Computer Operations	0	100	0	0	0
Systems Programming	10	90	0	0	0
Telephone Operations	0	0	100	0	0
Telephone Maintenance	0	0	100	0	0
Radio Operations	0	0	100	0	0
Radio Maintenance	0	0	100	0	0
Other: Y2K Remediation	50	50	0	Note 1	0

Note 1 Baltimore County allocated mostly in house staff for their Y2K efforts. They used approximately 20 in-house programmers plus various contract programmers (13 at the peak of workload) to finish the job. OIT put all non-Y2K applications development activities on hold until Y2K was finished. Baltimore continues testing applications for vulnerability to leap year issues (minor), but is finished with all other major Y2K work.

Expenditures on Y2K activities totaled about $9.0 million. OIT estimates that Baltimore County spent $3.0 million for contracted programmers, $2.8 million on in-house programmers, $1.3 million on PC replacements, and $1.9 million on other hardware, software, and systems upgrades.

D. Questions and Additional Information

OLO asked the Director of OIT several questions covering the five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the answers the Director of OIT provided to OLO.**

General/Organization

1. Who are the main users of your government's IT services?

Response: Departments of Finance, Police, Courts, Health and Human Services.

2. How long have you been organized as you are currently, and are there any plans to change the way you are organized?

Response: We made some minor changes about a year ago. More changes are expected this year.

3. ***Would any organizational changes improve the quality of your IT services, and what are they?***

Response: Organizational changes that target to improve how users get the value out of IT. Specifically, more customized training, better support, and business assistance in the application development process.

4. ***What degree of interaction occurs between central and decentralized IT staff?***

Response: Moderate to high degree of interaction between centralized and decentralized IT staff.

5. ***What IT initiatives is the county currently working on?***

Response: The County's most significant new IT initiatives include:

- Geographic Information Systems (GIS)
- Web-site
- Internet/email
- 800 MHz system

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: One LAN administrator for every 100 network users. We do not have a manager to worker ratio that we strive for in any IT operations.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: It's always hard to get good, affordable network people. Training and clearly set business objectives are essential for the development of capable IT staff.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: It is appropriate to centralize: helpdesk, desktop repair, enterprise platforms, and infrastructure. It is appropriate to decentralize network administration, small scale programming, and level one technical support.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: Here and there you will find an Administrative Assistant that helps everyone in the office with an application, but as a general rule there are no unaccounted for IT staff throughout Baltimore County Government.

Evaluation

10. How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?

Response: On a scale of one to ten, our IT organization gets a six. I don't believe we are getting the value out of our application development resources.

11. How do you measure whether IT functions are carried out effectively?

Response: Ideally, return on investment and customer feedback.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: Government bureaucracy and a lack of discreet data. Customer services (helpdesk and desktop repair) are easiest to evaluate.

13. Have you or any other government representative ever asked any County employees about their satisfaction with IT services- if so what did they say?

Response: Yes. We regularly send out customer service questionnaires. In general the ratings are excellent.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: Lack of data and benchmarks are obstacles for evaluating the efficiency of both OIT and IT service providers.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: We base our decisions on results of cost/benefit analyses when making decisions to contract for additional staff as well as contracting out entire functions.

16. What degree of interaction occurs between IT staff and contractors?

Response: Usually a high level of interaction occurs between IT staff and contractors.

17. What benefits/problems occurred as a result of outsourcing?

Response: The benefits of outsourcing include: easy to scale up and down in staff size, easy to change skills needed for jobs, no long term commitments are necessary. The problems associated with outsourcing include: staff are not incorporated into the team, staff usually do not support systems off hours (on-call), staff are expensive on an hourly basis, staff are not dedicated to the organization's mission.

18. ***Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?***

Response: We are outsourcing Data Entry and Record Management functions, which were both performed by in-house staff. As a result of outsourcing these functions OIT has experienced reduced costs.

IT Functions

19. ***What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?***

Response: Applications Development will be the most important. Network services should decline in importance.

20. ***Do you feel some IT functions should be contracted out and some should remain in house- please explain?***

Response: Strategic IT functions should not be outsourced. Non-strategic functions should be evaluated from a cost benefit standpoint.

21. ***When integrating/implementing newer IT functions into your IT organization, what issues arose?***

Response: Culture clashes, training-needs, flexibility of personnel, and procurement issues arose.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Baltimore County chapter. Several charts and tables are included.

- *Baltimore County Profile* *109*

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget

- *Baltimore County Government Organization Chart* *110*

  Shows the current organization by functional area.

- *Baltimore County Government IT Organization Profile* *111*

  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions OIT staff perform or oversee throughout the County, and a list of departments in the County having five or more IT positions.

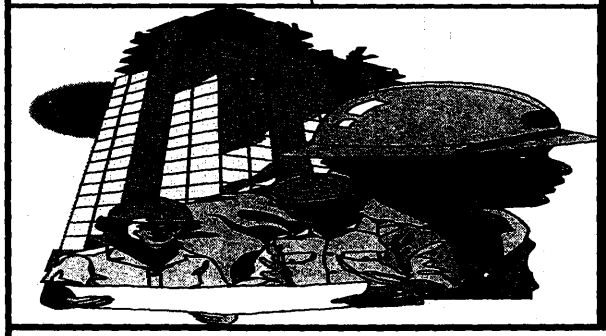
- *Organization Chart for the Office of Information Technology* *112*

  Shows the organization of IT staff in the divisions and offices of the department.

- *Organization Charts of Other Departments with Significant IT Staff* ..... *114 - 116*

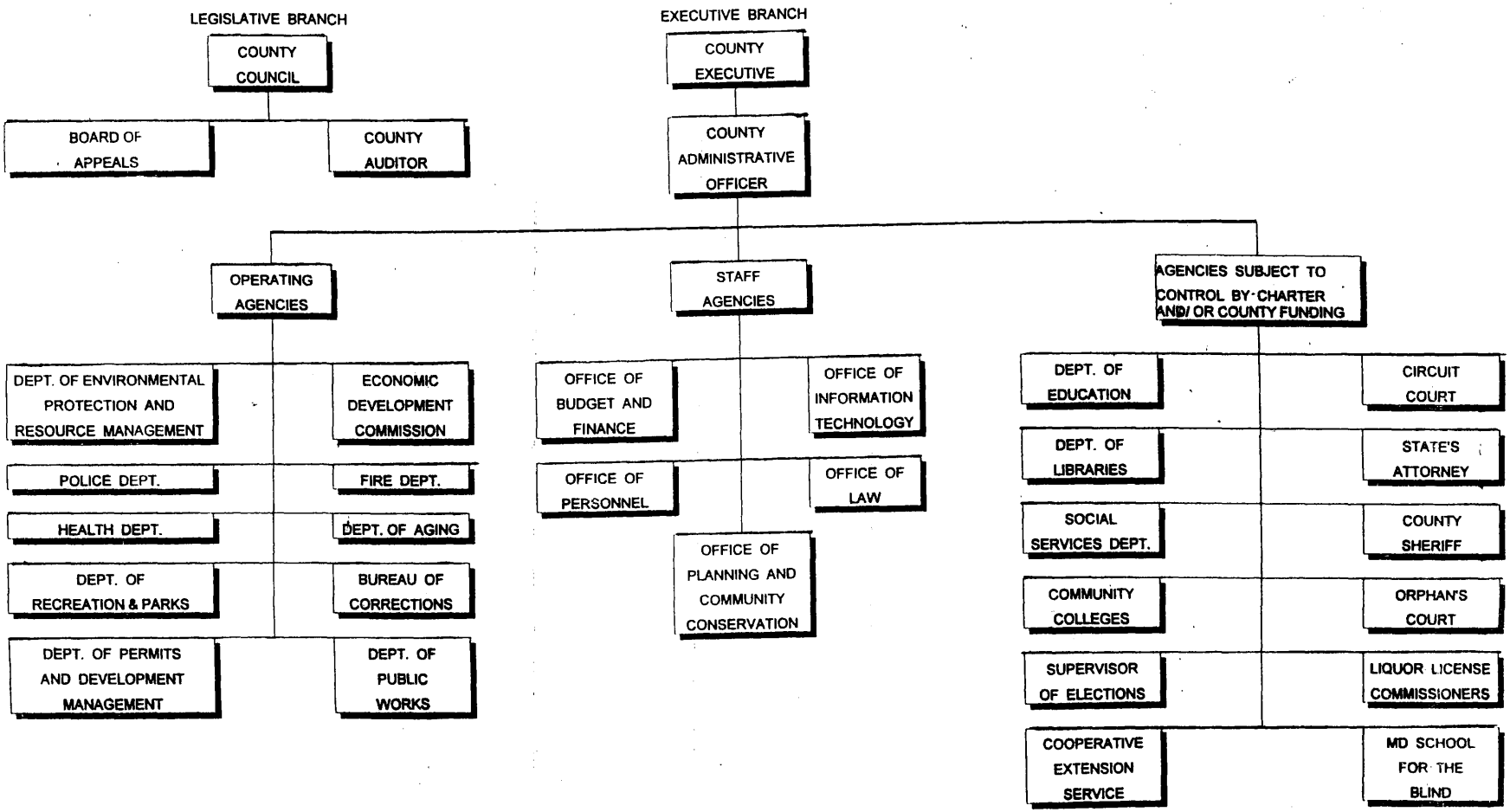
  Shows staffing in departments (other than OIT) that have five or more full-time IT staff.

Profile of Baltimore County, Maryland

Estimated Population	**724,675 (2000)**	**Largest Employers**	**AAI Corporation Engineering Services Integrated Logistics Blue Cross/Shield Sweetheart Cup Co. Foodarama, Inc. N.W. Health Systems Greater Baltimore- Medical Center Shepperd Pratt- Hospital**
County Area (Square Miles)	**612**		
County Income (Median Household)	**$48,600 (1997)**	**County Operating Budget***	**$1.70 billion (FY 2000)**
		**County Employees Supported by the Office of Information Technology (OIT)**	**8,162 Full-Time Equivalent (FY 2000)**
Form of Government: Elected County Council / Elected County Executive			
Central Government Functions	**Public Safety, Health, Social Services, Parks and Recreation, Environmental Protection, Circuit Court Operations, Economic Development Public Works,, Liquor Licensing, and General Government**		

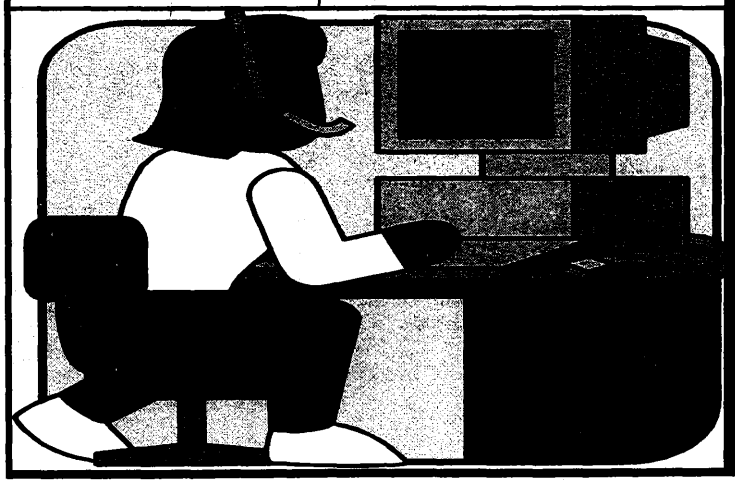
* Includes appropriations for the schools and college as well as the Executive and Legislative Branches.

Organization Chart of Baltimore County, Maryland Government



Baltimore County, Maryland
IT Organization Profile FY 2000

IT Organization Structure	**Hybrid (estimated 69% centralized)**
Total IT Positions	**159.5 Full-Time Equivalent (estimated)**
IT Positions Groups	**Centralized 109.5 FTE; Decentralized 50.0 FTE (estimated)**
Central IT Department Operating Budget	**$6,929,517**



IT Department Functions

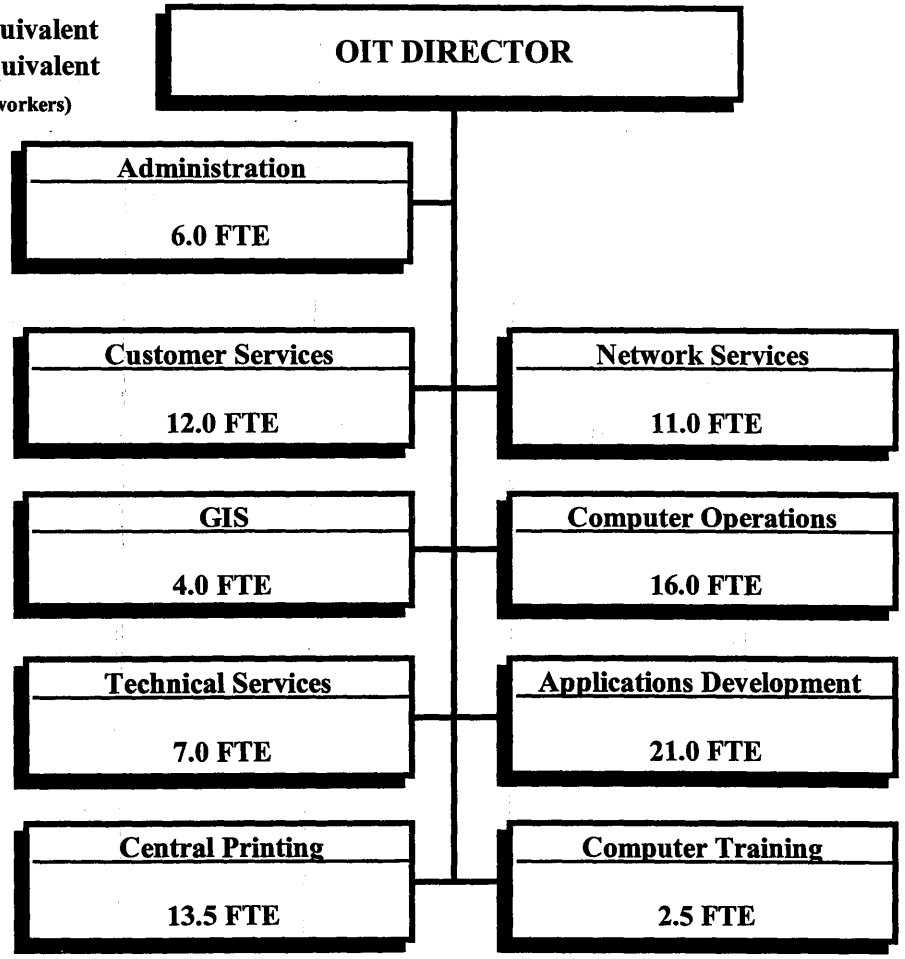
- Internet
- Help Desk
- Server Administration
- Computer Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support
- Geographic Information Systems
- Y2K Remediation

Departments Having Five or More IT Positions

- Budget and Finance
- Police
- Environmental Protection
- Social Services

IT Organization and Staffing in the Baltimore County Office of Information Technology - FY 2000

Total Staff: 94.0 Full-Time Equivalent
IT Staff: 74.5 Full-Time Equivalent
(excludes contracted workers)



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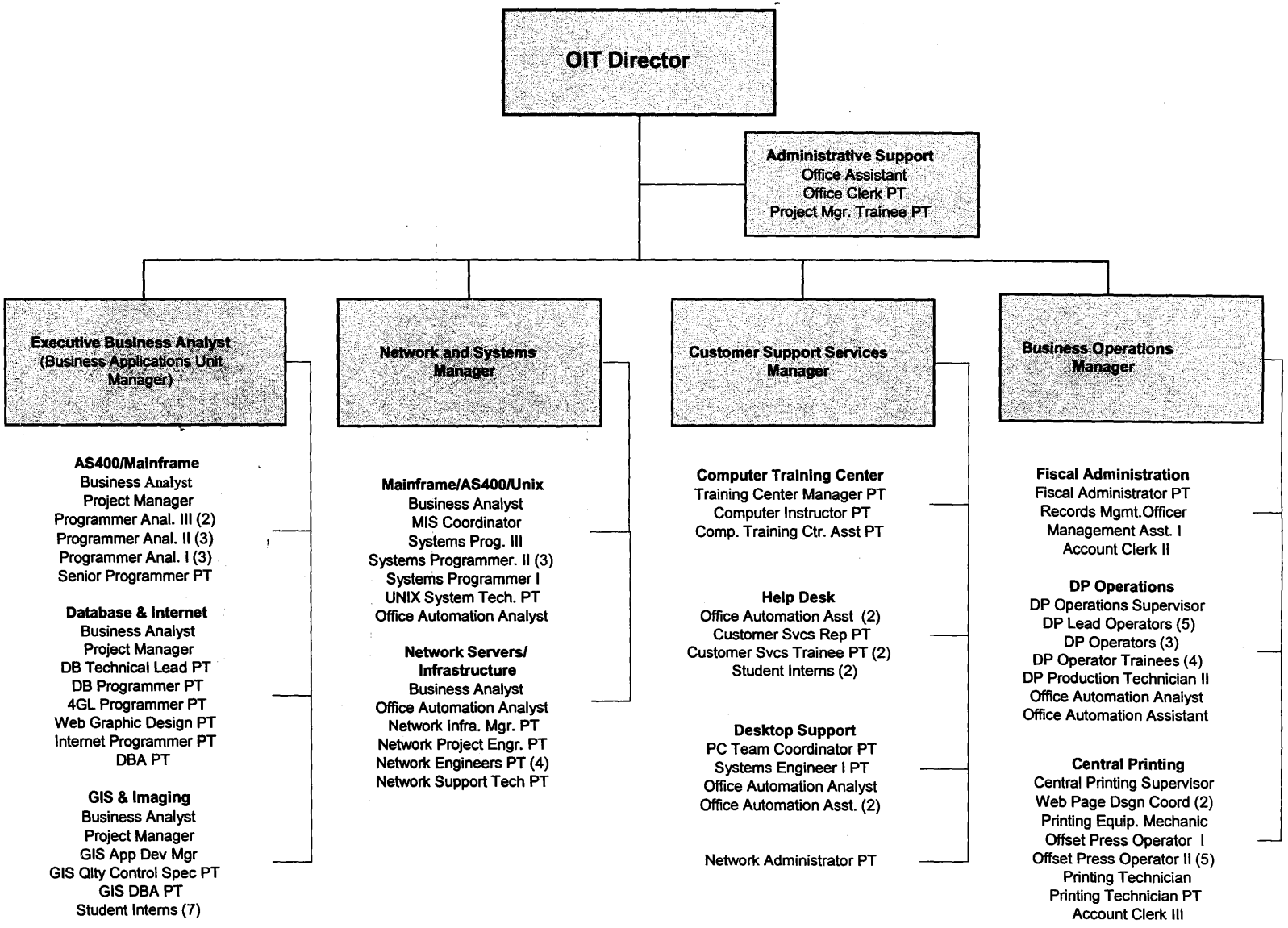
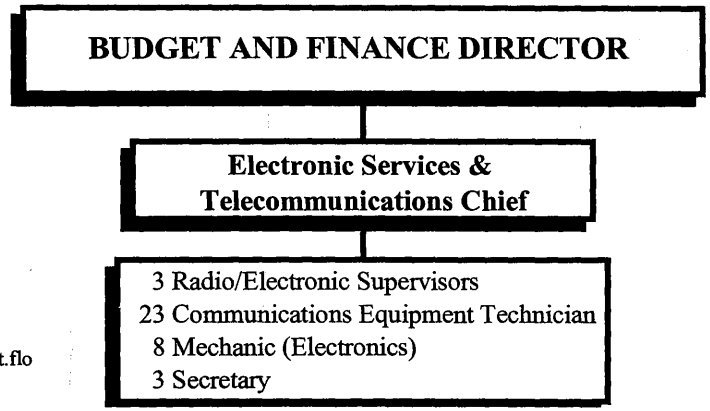
Notes:
Applications Development has 5 contracted workers in addition to the 21.0 FTE shown.
Computer Training uses contracted workers as needed.

IT Organization and Staffing in the Baltimore County Office of Information Technology - FY 2001



IT Organization and Staffing in the Baltimore County Budget and Finance Department FY 2000

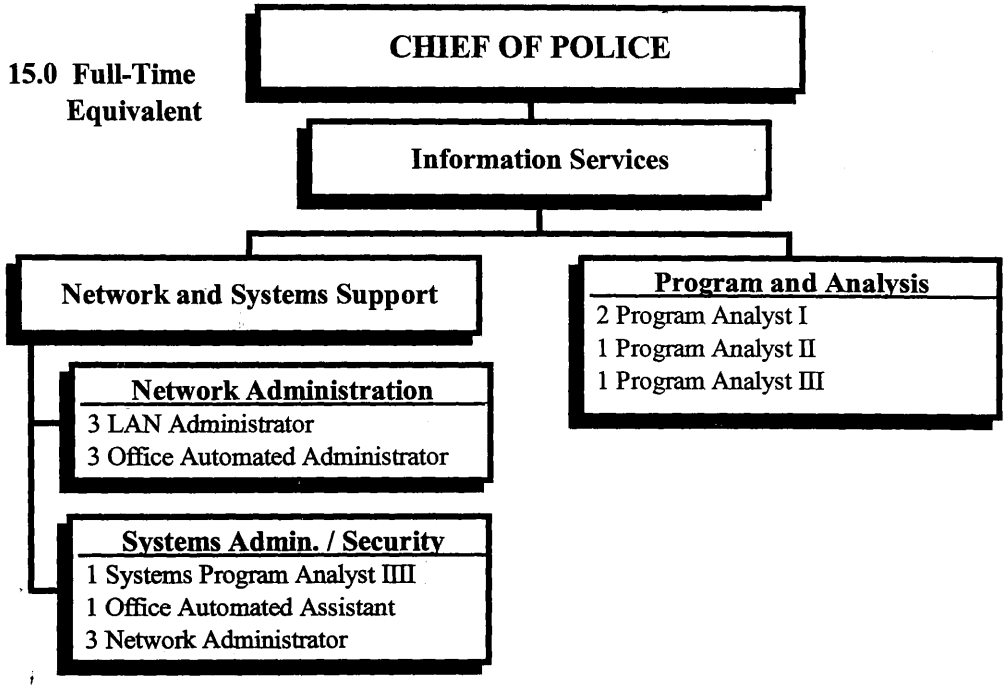
Total Staff: 38.0 Full-Time Equivalent
IT Staff: 35.0 Full-Time Equivalent



elect.flo

IT Organization and Staffing in the Baltimore County Police Department FY 2000

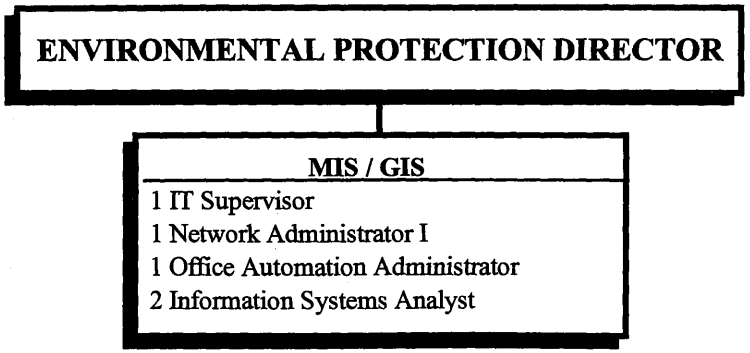
IT Staff: 15.0 Full-Time Equivalent



police.flo

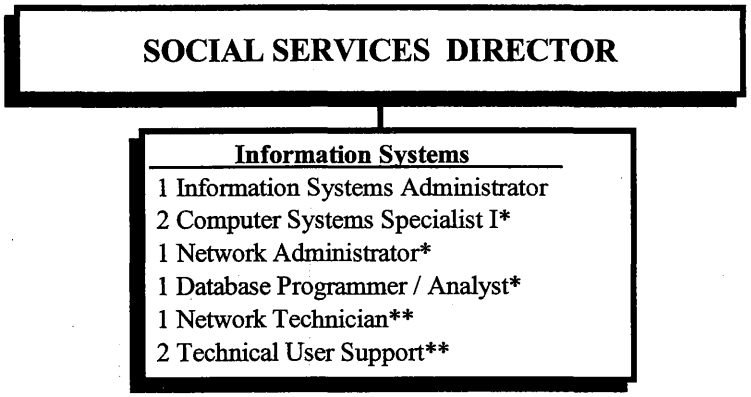
IT Organization and Staffing in the Baltimore Department of Environmental Protection - FY 2000

IT Staff: 5.0 Full-Time Equivalent



IT Organization and Staffing in the Baltimore Department of Social Services - FY 2000

IT Staff: 8.0 Full-Time Equivalent
(1-temporary)



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Notes:
Department in process of adding one more Computer Systems Specialist I position
*** position funded by State of Maryland**
**** temporary position (full-time)**

Chapter VII

FAIRFAX COUNTY, VIRGINIA

A. BACKGROUND 117

B. IT ORGANIZATION 117

1. Centralized IT Staff 119

2. Decentralized IT Staff 120

C. IT FUNCTIONS 120

D. QUESTIONS AND ADDITIONAL INFORMATION 121

E. SUMMARY CHARTS AND TABLES 126

VII FAIRFAX COUNTY, VIRGINIA

A. Background

Fairfax County has a population of 966,137 residents. The County neighbors Washington DC and includes almost 400 square miles of land area.

Fairfax County is governed under an Urban County Executive form of government. A Board of Supervisors, consisting of ten members (nine members elected by district, and a chairman, elected at large) pass resolutions and ordinances, approve the County budget, set tax rates, approve land usage, and appoint department and agency directors.

When the Board votes five for and five against a proposition, the pending proposal dies. Board members have no term limits and serve four-year terms in office. The Board also appoints the County Executive who is the administrative leader of the County government and is responsible for the administration of all County affairs.

In 1997, Fairfax County residents had a median household income of approximately $72,000. Some of the largest employers in Fairfax County include Public Schools, Kaiser Permanente, County Government, Mobil Corporation, Computer Sciences Corporation, Science Applications International, TRW, Inc., Inova Health Care Services, Northrop Grumman Technical Services, Northern Telecomm, Inc., and American Management Systems.

Fairfax County government services include: judicial operations, public safety, public works, health and welfare, parks and recreation, community development, and general government services. For FY 2000, the Board of Supervisors appropriated $3.53 billion to programs and initiatives.

An organization chart of the Fairfax County Government is located at page 128.

B. IT Organization

Fairfax County's first involvement with information technology was in 1955, when the County installed IBM recording equipment for automated billing of real estate and personal property taxes. In the early 1960's, a Systems and Programming Group was formed to provide IT services to County departments.

By the end of the 1960's, the Systems and Programming Group was developing automated systems for virtually every aspect of County government. During that period, the County established one of the first public/private IT partnerships in Virginia by developing an automated exchange of real estate billing data between the County and private mortgage companies.

In 1971, the County Executive divided the Systems and Planning Group into two units: the Cooperative Computer Center and the Systems Development Branch of the Office of Management and Budget. Also during the 1970's, several departments and offices established their own decentralized computer operations.

In 1981, the County introduced Wang word processing systems that proliferated throughout the County. In 1985, personal computers were introduced into Fairfax County government departments and offices. As the number of personal computers distributed throughout the County increased and staff became comfortable with the technology, many departments and offices began to purchase off-the-shelf software applications and set up their own computing systems. This decentralized computing eventually spawned decentralized IT support staff.

In 1995, the Board of Supervisors directed that the several separate organizations providing IT services to county government be consolidated to form a central IT organization. This organization, the Department of Information Technology (DIT) provides all aspects of computer and telecommunications technology combined the (previous) Office of Research and Analysis which provided software applications and reporting services; the previous Cooperative Computing Center (mainframe computer operations); and Communications which handled voice and data services.

Today's DIT is made up of four divisions, headed by IT program directors:

One division has five specialized branches supporting e-government, geographic information systems, and imaging technologies, as well as the Public Safety and Land development systems agencies system portfolios;

Another division supports Financial and Human Resources systems, Revenue systems, Human Services agencies applications, training, and general business branch supporting a variety of government agencies including facilities maintenance systems and constituent tracking application for the Board office.

A third division includes the enterprise computer center operations, Systems (technical) support, resolution Help Desk, Desktop and LAN based server support including enterprise-wide e-mail, database architecture, Network infrastructure, and Telecommunications and the Radio center/wireless systems.

There is also a central Policy, Planning, and Administration division managing the budgets, DIT administrative requirements, and Information protection. Finally, there are several professional level staff positions reporting to the Chief Architect that develop the County-wide IT architecture and supports strategic initiatives.

In 1998, the Board established the Chief Information Officer (CIO) structure serving at the deputy county executive level responsible for all information technology and related matters. In addition to DIT, the CIO has direct management responsibility for the County Library department, and the Department of Telecommunications and Consumer Affairs (cable industry franchise, County television productions and regulatory and compliance agency).

1. Centralized IT Staff

The FY 2000 operating budget for the Department of Information Technology (DIT) was $26.9 million, which included funding for 264 staff year equivalent (SYE) positions (IT staffing = 260 SYE positions). On January 1, 2000 DIT had ten IT vacancies, yielding a vacancy rate of 3.0 percent for the department.

In addition to allocations made to DIT, Fairfax County uses an Information Technology Projects Fund. The fund was created to strengthen centralized management and accounting for the County's major IT projects. DIT manages the fund, which totals $21,786,683 for FY 2000. A list of IT initiatives funded through the Technology Projects Fund is located at page 134.

Below is a list of DIT's organizational units as of January 1, 2000.

Management and Strategic Planning Cost Center (26.0 staff-year equivalent positions)

Application Services Cost Center (128.0 staff-year equivalent positions)

Technical Support / Infrastructure Services Cost Center (44.0 staff-year equivalent positions)

Infrastructure Services (66.0 staff-year equivalent positions)

- The *Management and Strategic Planning Cost Center* provides support to the Office of the Chief Information Officer (CIO) to include strategic planning, County architectural standards, information protection and contingency operations plus administrative support and consulting services to maximize the effective use of technology by County departments.
- The *Application Services Cost Center* provides the design, implementation, and maintenance of information systems including GIS, Internet, Kiosk and IVR public access technologies, and major business and management systems used by County departments. It also provides enterprise system training and support.
- The *Technical Support and Infrastructure Services Cost Center* functions include County LAN support, the Technical Support Center (TSC), database management and application support for all County telephone systems, as well as provision of operational and contingency services for telecommunication support to the Public Safety Communications Center. The Technical Support Services (TSS) branch in this Cost Center provides Desktop Support (including PC Replacement Services), Server Administration Support Services (including the NT domain structure), LAN based office automation, enterprise e-mail, and the workflow engine. Additionally this Cost Center hosts several department server based business applications.
- The *Infrastructure Services Unit* is responsible for providing data center operations, enterprise data communications networking, radio center services, and emergency 911 services to departments and agencies throughout the County. All expenditures are recovered through the use of a charge-back system (charging County departments and agencies user fees).

A chart of the DIT organization by function area is located at page 130.
An organization chart of DIT divisions and office is located at page 131.

2. Decentralized IT Staff

DIT management estimates that 100 IT staff-year equivalent positions are allocated to departments and offices (other than DIT) for FY 2000. DIT management did not provide OLO with information regarding Fairfax County's decentralized IT staff.

C. IT Functions

Fairfax County's IT staff perform a variety of IT functions. The table below shows the County's major IT functions, along with DIT's estimate of the amount of centralized, decentralized, contracted staff, and outsourced activities:

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	0	100	0	0	0
Systems Development	40	55	5	50	10
Systems Maintenance	0	75	25	8	0
Desktop Computer Support	15	60	25	1	1
Geographic Info. System (GIS)	20	70	10	2	0
Internet	5	65	30	0	0
Intranet	0	80	20	0	0
E-Commerce	25	75	Note 1	2	0
Local Area Network (LAN)	0	75	25	0	0
Wide Area Network (WAN)	30	70	0	0	0
Server Administration	0	50	50	0	0
Help Desk	0	100	0	0	0
Computer Operations	0	100	0	0	0
Systems Programming	0	100	0	0	0
Telephone Operations	0	100	0	0	0
Telephone Maintenance	0	100	0	0	0
Radio Operations	0	100	0	0	0
Radio Maintenance	0	100	0	0	0
Other: Y2K Remediation		Note 2	Note 2		

Note 1 E-Commerce applications will be completely developed by DIT.

Note 2 Fairfax County's Y2K effort officially began in May, 1996 with the first full-blown year 2000 assessment of the mainframe applications supported by DIT. This effort concentrated in six areas: Mainframe DIT-supported applications, Data Center Hardware and Executive Software, Non-DIT-supported agency applications, Communications Networks, Personal Computers and PC applications, Embedded Microprocessors.

An estimated 40 SYE's were used for the remediation of Y2K issues throughout the County. A total number of expenditures spent on this initiative is unavailable. However, FY 2000 costs for Y2K remediation equals almost $1.2 million.

D. Questions and Additional Information

OLO asked the Director of DIT several questions covering the following five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the answers the DIT Director provided to OLO.**

General /Organization

1. Who are the main users of your government's IT services?

Response: Entire County government--all Human/Social Services department functions; Public Safety-Police, Fire, Sheriff, Courts & Jails; Planning & Land Development process-zoning, permits, etc.; Tax Systems –Assessment and Collections; Finance, Payroll, Human Resources, Purchasing & Asset Management, Facilities Management, County Board constituent tracking, and assorted other.

2. How long have you been organized as you are currently, and are there any plans to change the way you are organized?

Response: The current structure has been in place for three (3) years; we have and will continue to adjust the organization in order to respond to priorities and better synchronize and align related functions. We also plan to strengthen our 'foundation architecture technology' and strategic technology structures around e-government, seat management, and objectives of major project initiatives. The centralized IT structure approach under a strong CIO at the executive level of government works well, as we have found numerous economies and efficiencies in implementing IT investments by doing this.

3. Would any organizational changes improve the quality of your IT services, and what are they?

Response: Continue centralization approaches in FY 2001 (July 2000): Internet-e-government infrastructure, Help Desk, desktop, and network support management. We also continue to develop user-groups that interface with the central IT organization on support and innovation issues.

4. What degree of interaction occurs between central and decentralized IT staff?

Response: Daily. Central IT manages County IT Projects fund and CIO approves plans and expenditures. Decentralized IT staff use central IT Help Desk tools. All departments are moving to Countywide LAN standard. Central IT is used as an escalation point for assistance for the decentralized staff.

5. What IT initiatives is the county currently working on?

Response: The County is working on a number of IT initiatives. In the communications technology arena, a new radio system with a towers infrastructure will be operational by Summer 2000, and an I-Net Fiber Optic Cable infrastructure with connections to 400 plus sites throughout the County has begun.

Other major initiatives highlighted in our IT Plan for FY01 include major thrusts in e-government and public access, major enhancements in our Geographic Information Systems, Human Services Strategic Systems, the County's IT Infrastructure, Human Resources Information Systems, and E-Permitting/enhanced Land Development Systems initiatives: The list below represents the portfolio of major projects and initiatives being undertaken:

- Enterprise- IT Architecture development
- On-going GIS enhancements
- Enterprise network management
- Enterprise network enhancement
- Enterprise Technology Center & IT Infrastructure improvements (includes computer center modernization, server consolidation, multi-platform storage technology)
- County-wide Web-site Redesign
- E-Government/Public Access
- Call Center/Customer relationship management
- Client-server applications
- Real-estate system redesign
- E-Permitting
- Land Development System (LDS)
- Human Services Strategic Information Systems
- Workflow and Decision Support Systems
- Human Resources Management/ERP System
- Criminal Justice Systems
- Document Imaging and Management
- Comprehensive Telecommunications study
- County-wide fiber optic communications infrastructure
- Transportation Scheduling Services System

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: We compare our staffing levels to industry norms, i.e. Gartner and others, and against peers. We base staffing in each area based on requirements, service level agreements and demand. We periodically conduct surveys.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: We face recruitment issues in the technical areas of Internet architects and WEB development; Oracle database professionals, network analysts and engineers, and 4GL language developers. This is a serious problem in this region due to intense competition in the commercial sector for It professionals and the lack of competitiveness and flexibility in government salary scales and civil service regulations.

We started an IT trainee program for tenured County staff, and we are implementing a pay for performance system. We balance the kind of work IT staff perform, between routine support and new projects.

We are also developing a more matrix-oriented operation and delegating more to staff. Finally, we provide a Countywide IT training fund each year, and we encourage staff to attend industry conferences.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: Core infrastructure, enterprise and foundation technologies support should be centralized. Also, the data center, network, telecommunications management, desktop support, help-desk, Internet/WEB site management, Interactive Voice Response (IVR), Kiosk, GIS, workflow and imaging applications support, enterprise database management, enterprise and major business applications developers, and training. Departments should have business and application analysts/strategic planners, and first level system administrators.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: In some departments, management analysts might perform some local area network (LAN) and desktop administration tasks.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

Response: The central IT department (DIT) is performing well, supporting over 40 departments Countywide. The decentralized Human Services IT branch has a fair relationship with the 6 agencies it supports primarily due to a lack of buy-in to the recommendation that created this section several years ago and a lack of consensus view on what services need to be provided and service expectations. DIT supports many of the major IT initiatives in those 6 agencies as a result.

11. How do you measure whether IT functions are carried out effectively?

Response: Performance statistics via our Technical Support Center; feedback via senior County management; internal and external oversight committees; project management; surveys, and receipt of the PTI, the Governor, and other awards and honors for our IT programs.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: Government funding processes can be a factor, especially in terms of support and maintenance capacity. Infrastructure IT services and e-government are easier to evaluate because they are direct and highly visible--also we can derive quantitative measurements for those. Also, you get immediate feedback on failures when they occur.

13. Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?

Response: Yes. Many responses are based on their positive or negative interactions with IT staff, and the IT organizations willingness to assist. Many County staff look to the IT organization as a good career path and seek to compete for available positions.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: Cost associated with developing a robust performance measurement system. Rapid expansion in use of IT in all County operations; rapid pace of evolution in IT industry and resulting standards; and, benchmarking in government in general.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: We use contractors to fill-in on peak activities or to augment staff on unforeseen requirements that may come up in the course of a budget year. We use contractors to implement some IT projects. We do not outsource any IT operational functions. However, we may consider in the future for technical maintenance support of devices such as in seat-management and telecommunications infrastructure support if the financial or operational benefit is there.

16. What degree of interaction occurs between IT staff and contractors?

Response: Contractors are well integrated in working with staff on a daily basis.

17. What benefits/problems occurred as a result of outsourcing?

Response: Not Applicable.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: Not Applicable.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response: Growth in IT internet/e-government functions, information protection and IT security, GIS, GroupWare, and network/telecommunications.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: We look at certain functions occasionally from a cost effectiveness basis/service improvement basis; those such as PC and device break-fix, printing and multifunction device support, network (wide area especially) could be candidates for technician support contracts in the future. We have no immediate plans for this although we are looking at seat management.

21. When integrating/ implementing newer IT functions into your IT organization, what issues arose?

Response: Not many, we have an inclusive decision environment for overseeing IT that includes senior level management, an internal IT Steering committee, an external appointed committee, and an IT planning process that helps drive our decisions. We achieve consensus each budget cycle on the IT plan and direction.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Fairfax County chapter. Several charts and tables are included.

- *Fairfax County Profile* *127*

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget

- *Fairfax County Government Organization Chart* *128*

  Shows the current County government organization.

- *Fairfax County Government IT Organization Profile* *129*

  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions that DIT staff perform or oversee throughout the County.

- *Organization Charts of the Department of Information Technology* *130-131*

  The first chart shows the department organization by funtion. The second chart shows the organization of IT staff in the divisions and offices of the department.

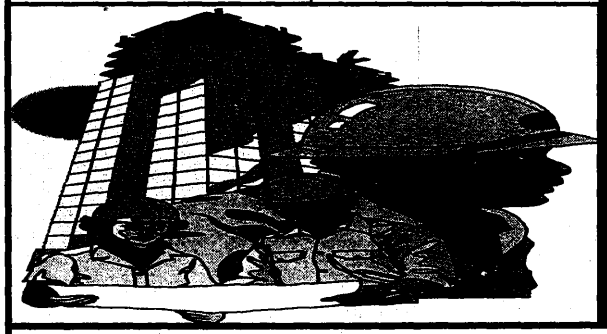
- *Department of Information Technology IT Positions List FY 2000* *132-133*

  Lists approved FY 2000 staff-year equivalent positions in the Fairfax County Department of Information Technology.

- *Infrastructure Projects Fund FY 2000 Budget Initiatives* *134*

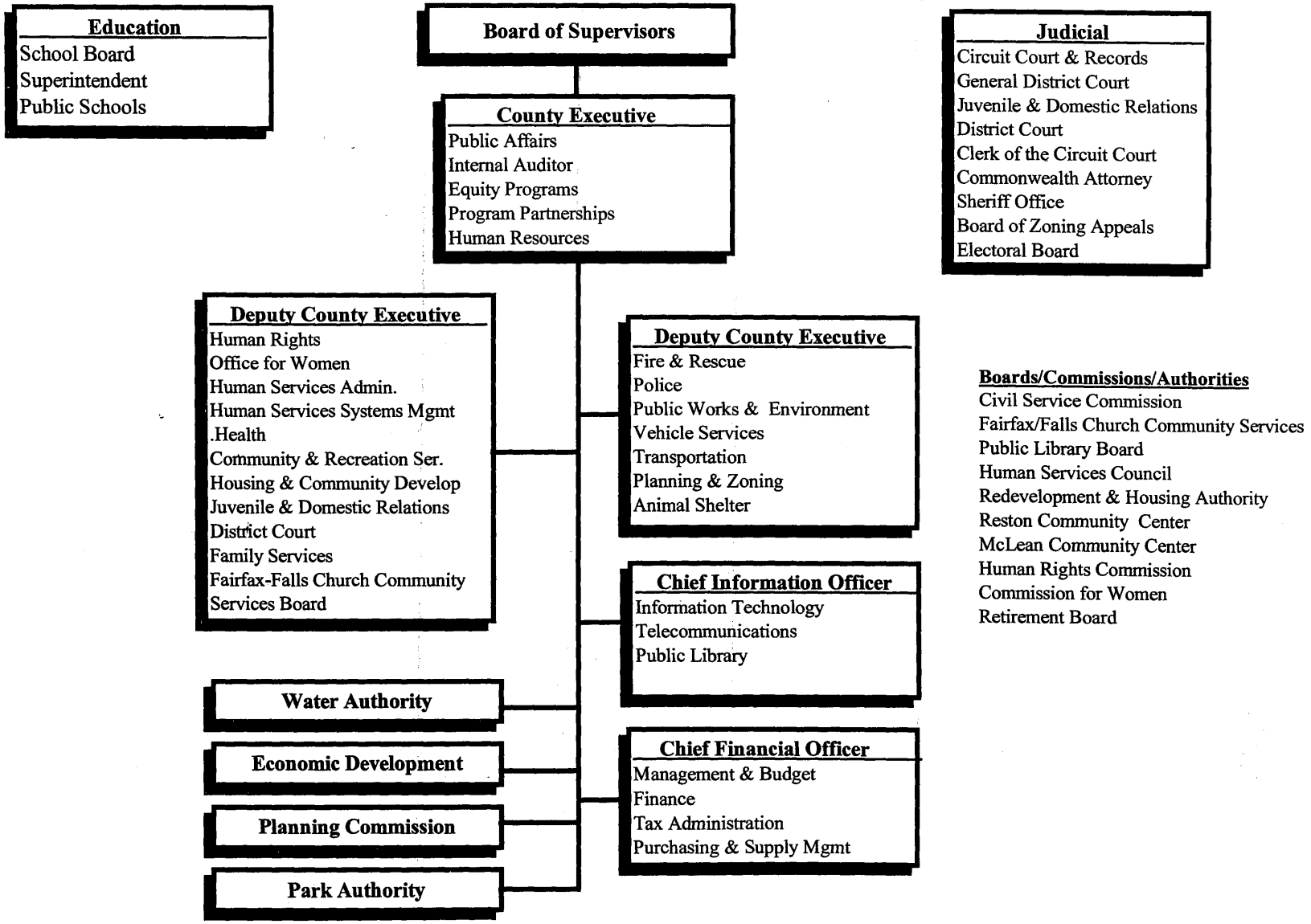
  Lists Fairfax County IT projects budgeted through Fund 104 for FY 2000

Profile of Fairfax County, Virginia

Estimated Population	**966,137 (2000)**	**Largest Employers**	**Public Schools Kaiser Permanente County Government Mobil Corp. Computer Sciences Corp. Science Applications Int. TRW, Inc. Inova Health Services Northern Telecom, Inc.**
County Area (Square Miles)	**399**		
County Income (Median Household)	**$72,000 (1997)**	**County Operating Budget***	**$ 3.53 billion* (FY 2000)**
		**County Employees Supported by the Department of Information Technology (DIT)**	**11,020 Total SYE (FY 2000)**
Form of Government: Elected Board of Supervisors / Appointed County Executive			
Central Government Functions	**Public Safety, Environmental Protection, Public Works and Transportation, Health and Human Services, Culture and Recreation, Community Development and Housing, Judicial Operations, General Government**		

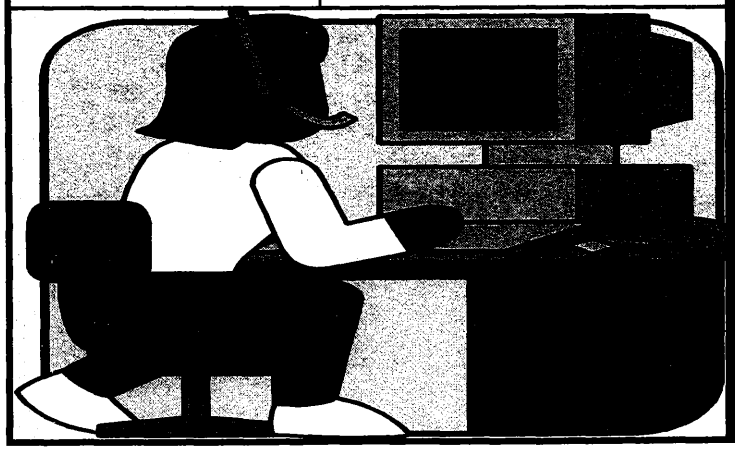
* Includes all agencies for which the Fairfax County Board of Supervisors maintains appropriation authority.

Organization Chart of Fairfax County, Virginia Government



Fairfax County, Virginia
IT Organization Profile FY 2000

IT Organization Structure	**Hybrid (estimated 72% centralized)**
Total IT Positions	**360 SYE (estimated)**
IT Position Groups	**Centralized 260 SYE; Decentralized 100 SYE (estimated)**
Central IT Department Operating Budget	**$26,870,000**



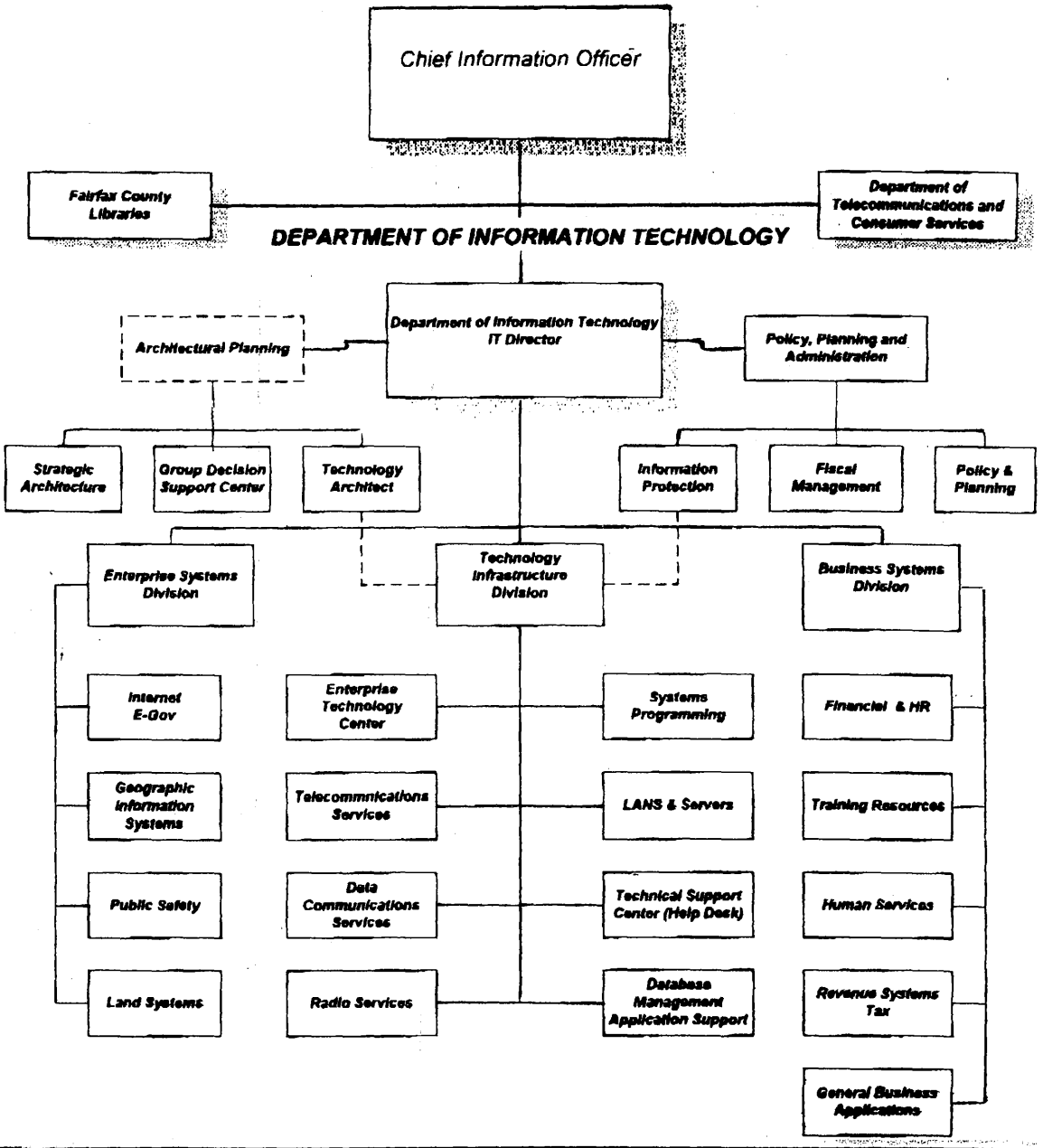
IT Department Functions

- Internet
- Intranet
- Help Desk
- E-Commerce
- IT Consulting
- Radio Operations
- Radio Maintenance
- Server Administration
- Computer Operations
- Telephone Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Telephone Maintenance
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support
- Geographic Information Systems
- Year 2000 Remediation

Departments Having Five or More IT Positions

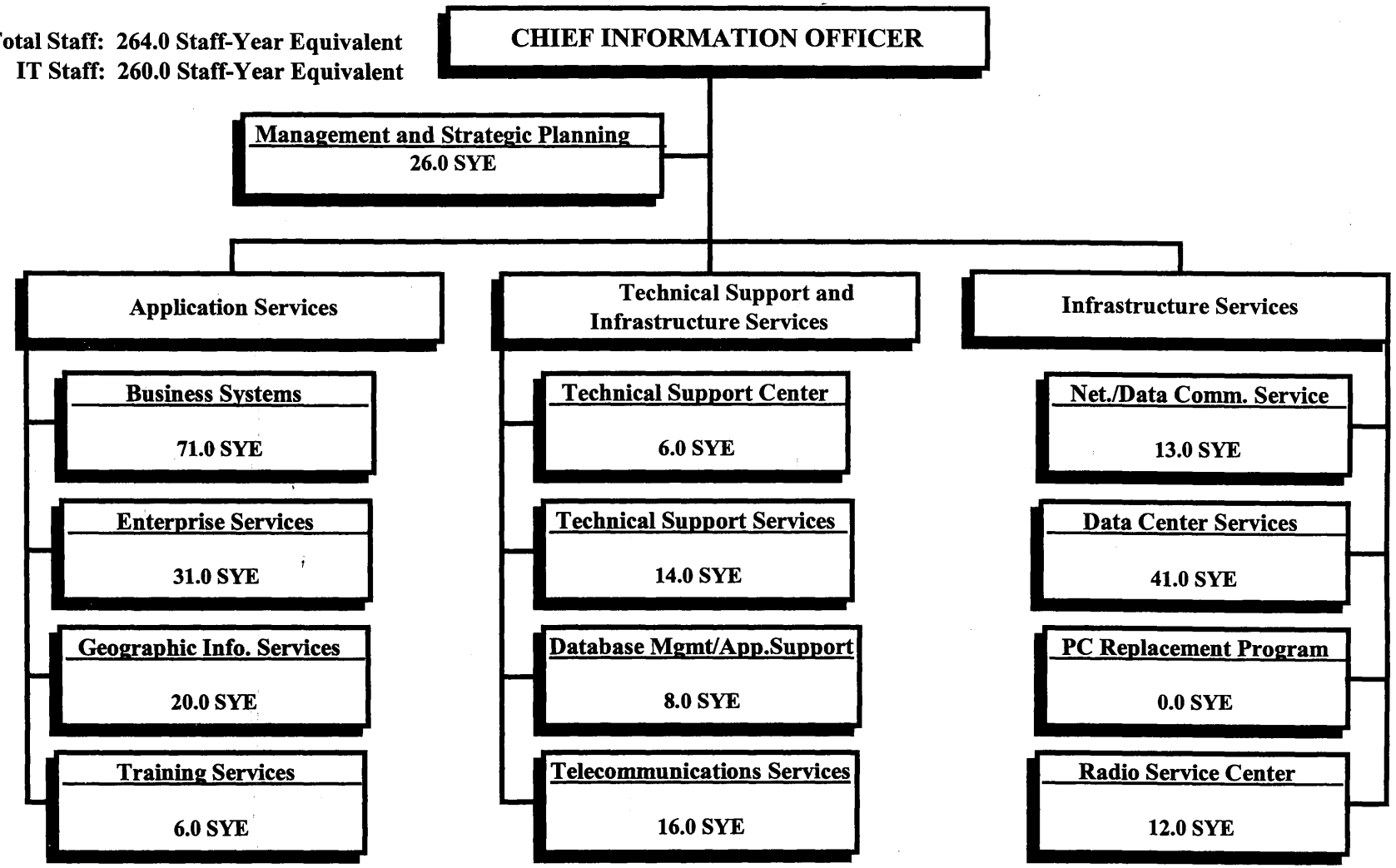
Information Not Provided

Functional Organization for the Fairfax County Department of Information Technology – FY 2000



IT Organization and Staffing in the Fairfax County Department of Information Technology – FY 2000

Total Staff: 264.0 Staff-Year Equivalent
IT Staff: 260.0 Staff-Year Equivalent



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Detail of IT department positions within organizational unit begins on the next page.

Fairfax County Department of Information Technology Positions - FY 2000

Management and Strategic Planning

Management, Administration & Planning

1 Director of Information Technology
1 Assistant Director of Information Technology
1 Information Technology Program Director II
2 Information Technology Program Director I
1 Management Analyst IV
1 Management Analyst III
1 Business Analyst III
1 Accountant II
1 Management Analyst II
1 Management Analyst I
3 Administrative Aide
1 Secretary III
2 Secretary II
1 Accounting Technician
3 Account Clerk II
1 Clerk Typist II
1 Information Security Manager
1 Information Security Analyst II
2 Information Security Analyst I
Total Staff Year Equivalent = 26.0

Application Services

Business Systems

1 Information Technology Program Director II
4 Information Technology Program Manager II
2 Management Analyst IV
2 Network/Telecom. Analyst II
20 Programmer Analyst IV
16 Programmer Analyst III
26 Programmer Analyst II
Total Staff Year Equivalent = 71.0

Application Services Continued

Enterprise Services

1 Information Technology Program Director II
1 Information Technology Program Director I
1 Information Technology Program Manager II
1 Information Technology Program Manager I
1 Internet/Intranet Architect IV
3 Internet/Intranet Architect III
4 Internet/Intranet Architect II
1 Public Information Officer III
1 Database Administrator II
5 Programmer Analyst IV
6 Programmer Analyst III
6 Programmer Analyst II
Total Staff Year Equivalent =31.0

Geographic Information Services

1 Information Technology Program Manager II
1 Network/Telecomm. Analyst III
1 Geographic Information Spatial Analyst IV
2 Geographic Information Spatial Analyst III
3 Geographic Information Spatial Analyst II
1 Geographic Information Spatial Analyst I
1 Engineer III
1 Geographic Information Systems Supervisor
9 Geographic Information Systems Technician
Total Staff Year Equivalent = 20.0

Training Services

1 Information Technology Program Manager
1 Business Analyst III
4 Business Analyst II
Total Staff Year Equivalent = 6.0

Fairfax County Department of Information Technology Positions - FY 2000 (continued)

Technical Support / Infrastructure Services

Technical Support Center
1 Information Technology Program Manager I
5 Information Technology Educator III
Total Staff Year Equivalent = 6.0

Technical Support Services
1 Information Technology Program Manager II
1 Network/Telecom. Analyst IV
3 Network/Telecom. Analyst III
9 Network/Telecom. Analyst II
Total Staff Year Equivalent = 14.0

Database Management/Application Support
1 Information Tech. Program Manager I
3 Database Administrator III
2 Database Administrator II
1 Data Analyst III
1 Data Analyst II
Total Staff Year Equivalent = 8.0

Telecommunications Services
1 Information Technology Program Manager II
2 Network/Telecom. Analyst IV
4 Network/Telecom Analyst III
4 Network/Telecom. Analyst II
2 Information Technology Technician III
3 Information Technology Technician II
Total Staff Year Equivalent = 16.0

Total Positions = 264.0 Staff-Year Equivalent
IT Positions = 260.0 Staff-Year Equivalent

Infrastructure Services

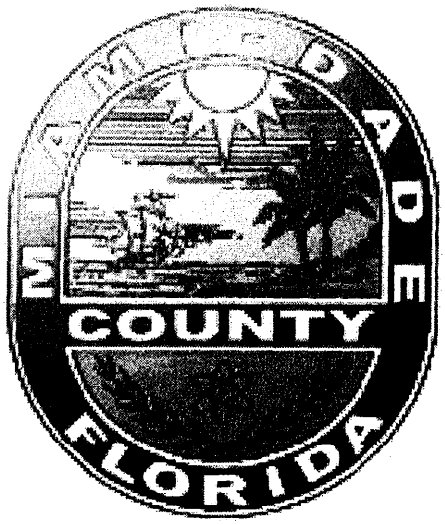
Network Services
1 Information Technology Program Manager II
2 Network/Telecom. Analyst IV
6 Network/Telecom Analyst III
3 Network/Telecom Analyst II
1 Network/Telecom Analyst I
Total Staff Year Equivalent = 13.0

Data Center Services
1 Information Technology Program Director II
1 Information Technology Program Manager II
1 Information Technology Program Manager I
3 Systems Programmer III
7 Systems Programmer II
4 Systems Programmer I
1 Computer Systems Analyst III
1 Computer Systems Analyst II
1 Information Technology Educator III
1 Computer Operations Supervisor II
3 Computer Operations Supervisor I
9 Computer Operator III
2 Computer Operator II
1 Computer Scheduler
1 Production Control Specialist III
4 Production Control Specialist II
Total Staff Year Equivalent = 41.0

Radio Center Services
1 Radio Engineer and Service Branch Manager
2 Engineer II
1 Communication Engineer
3 Communication Technician
1 Electronic Equipment Supervisor
2 Electronic Equipment Technician II
1 Assistant Buyer
1 Account Clerk
Total Staff Year Equivalent = 12.0

Fairfax County Infrastructure Projects Fund Initiatives - FY 2000

Project Name	FY 2000 Adopted Budget Plan
Public Safety Communication Network	$ 5,249,248
Human Services	2,916,500
Planning and Development	566,217
Library Projects	1,441,258
Information Technology Training	400,000
Land Records Automated Systems	600,000
Network Modernization	2,341,310
DIT Tactical Initiatives (Year 2000)	1,185,000
Electronic Data Interchange	80,000
Public Access to Information	831,528
Criminal Justice Redesign	1,578,500
MS Office Suite Migration	2,806,852
Citrix MetaFrame Migration	149,300
Treasury Management System	217,000
Legislative Tracking	164,600
Systems Management	165,600
ISIS Handheld Computer Replacement	1,043,770
OBCS Internet Projects	50,000
Total FY 2000 Project Expenditures	**$ 21,786,683**



Chapter VIII

MIAMI-DADE COUNTY, FLORIDA

A. BACKGROUND 135

B. IT ORGANIZATION 135

1. Centralized IT Staff 136

2. Decentralized IT Staff 137

C. IT FUNCTIONS 138

D. QUESTIONS AND ADDITIONAL INFORMATION 138

E. SUMMARY CHARTS AND TABLES 142

VIII MIAMI-DADE COUNTY, FLORIDA

A. Background

Miami-Dade County's population currently exceeds two million people, and the County's borders encompass approximately 2,000 square miles of land. It is the largest "local" government in the Southeastern United States in terms of population and land area.

The Dade County Home Rule Charter, adopted November 6, 1957, created a county government seat in the City of Miami and vested the County's political power in an elected Board of County Commissioners and an elected Executive Mayor.

One County Commissioner is elected from each of 13 geographical districts to serve a four-year term. County Commissioners may serve an unlimited number of four-year terms. The Executive Mayor may serve two consecutive four-year terms. The Executive Mayor selects the County's administrative leader.

Residents of Miami-Dade County had an estimated median household income of $28,000 in 1995. For FY 1999 the County appropriated $2.90 billion to programs and initiatives.

Some of the largest employers in the County include: American Airlines, University of Miami, BellSouth, Burdines Department Stores, Florida Power and Light, Baptist Health Systems of South Florida, Mount Sinai Medical Center, K-Mart, Publix Super Markets, Inc., and Winn-Dixie Stores, Inc.

Miami-Dade's government services encompass the following: business development, environmental services, solid waste services, international airport, parks and recreation, housing, transportation, fire and rescue, public safety, human services, consumer services, economic development, libraries, and general government.

B. IT Organization

In 1956, five employees started the County's data processing operation in an old storefront. They performed a rudimentary form of data processing by utilizing punched cards in conjunction with addressing machines to "automate" their work. These employees moved to the office of the Clerk of the Courts in 1958, when the County created its first computer operations utilizing IBM Electronic Accounting Machines.

During 1960, the County Manager's Office created a separate Data Processing Division, which used an IBM 305 RAMAC computer to print tax rolls and assessment bills. Six years later, in response to increased service demands, the County acquired an advanced third generation computer and established the first teleprocessing network in South Florida.

In 1969, Miami-Dade became the first Florida county to link computers with the National Crime Information Center in Washington, D.C. During the following year, the County created a computer networking architecture system by installing IBM System/370 computer technology.

In 1975, the County Commission established the Office of Computer Services and Information Systems as the County's central IT department. In 1992, the County Commission changed the name to the Information Technology Department (ITD).

Miami-Dade County maintains a hybrid IT organizational structure, but the mix of centralized and decentralized responsibility is currently unknown. ITD is authorized 500.0 IT positions, while the number of IT positions authorized for other departments and offices throughout the County Government was not available for this report.

ITD and other County departments sometimes hire temporary employees or enter contractual relationships with private sector IT professionals to handle temporary peaks in workloads and to obtain skills that current County employees do not possess. Although ITD contracts for approximately ten percent its IT staff, the Department does not currently use contractual relationships for any of their IT functions.

1. Centralized IT Staff

The FY 2000 operating budget for ITD was $69.8 million, which included funding for 541 positions (IT positions = 500). Of the total ITD staffing, 41 positions perform support and administrative responsibilities, and do not perform direct IT activities. On January 1, 2000, ITD had 60 vacant IT positions, yielding a 12.0 percent vacancy rate for the Department.

Below is a list of ITD's organizational units as of January 1, 2000.

Office of the Director (3positions)
Administration (30 positions)
Customer Services (25 positions)
Telecommunication Services and Data Center Operations (256 positions)
Applications Consulting, Support, and Maintenance (223 positions)

- The *Office of the Director* manages and directs information systems and communication programs under the department's purview, develops departmental strategic and tactical plans, and designs and implements the infrastructure to provide information technology services to County departments.
- The *Administration Division* develops and implements departmental administrative standards and procedures and monitors compliance. It manages functions relative to the acquisition of goods and services including the preparation and submission of requests for proposals, supervises the department's personnel management, and develops and maintains the departmental affirmative action plan. The division is also responsible for financial and budgetary processes.

- The *Customer Services Division* offers training, customer assistance, and problem resolution programs, serves as a webmaster for the County's Internet web site and manages the operation of a County-wide help desk, which provides support 24 hour / 7 day a week. Lastly this division serves as the Public Information Office, dealing with all requests for public records as well as media relations.
- The *Telecommunications Services and Data Center Operations* provides 24 hour/7 day-a-week operational maintenance and support for telephone, radio, voice, network, microwave, and fiber optic systems. This division also provides 24 hour / 7 day a week operational maintenance and support for data processing and storage for critical operational and communications systems on multiple computing platforms. Lastly, this division provides diverse data processing and telecommunications services to other local, state, and federal agencies.
- The *Applications Consulting, Support, and Maintenance Division* enhances the quality and performance of the County's databases, geographic information system, and applications systems. This division assists County agencies in applying information technology efficiently and cost-effectively to improve business processes. Lastly, this division provides 24 hour / 7 day a week operational maintenance for critical County application systems such as the E-911, Criminal Justice, FAMIS, and Payroll systems.

An organization chart of ITD is located at page 144.

2. Decentralized IT Staff

ITD's Director of Customer Services provided OLO with information about the departments that have five or more IT staff, but could not estimate the total number of IT personnel in the government. The County's Information Officer is currently collecting this information.

Departments with five or more IT staff include:

Aviation (86 full-time IT positions)
Environmental Resources (27 full-time IT positions)
Fire (21 full-time and 1 part-time IT positions)
Police (50 full-time and 3 part-time IT positions)
Transit (31 full-time IT positions)
Water and Sewer (70 IT positions)
Public Works (16 full-time and 1 part-time IT positions)
Solid Waste (unknown number of IT positions)

Organization charts depicting IT positions in most departments with five or more IT staff are located at pages 152-158.

C. IT Functions

Miami-Dade County's IT staff perform a variety of IT functions. The table on page 138 shows the County's major IT functions, along with ITD's estimate of the amount of centralized and decentralized staff and contracted activities:

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	0	60	40	Estimated 10% of IT positions in ITD are contracted	Information Not Available
Systems Development	0	70	30		
Systems Maintenance	0	70	30		
Desktop Computer Support	0	80	20		
Geographic Info. System (GIS)	0	90	10		
Internet	0	80	20		
Intranet	0	90	10		
E-Commerce	0	0	0		
Local Area Network (LAN)	0	70	30		
Wide Area Network (WAN)	0	100	0		
Server Administration	0	80	20		
Help Desk	0	80	20		
Computer Operations	0	95	5		
Systems Programming	0	95	5		
Telephone Operations	0	100	0		
Telephone Maintenance	0	100	0		
Radio Operations	0	100	0		
Radio Maintenance	0	100	0		
Other: Y2K Remediation	0	Note 1	Note 1		

Note 1. The County handled the Y2K effort in a distributed manner with every department responsible for its own systems testing and remediation. A Y2K Project Manager coordinated activities with Y2K staff in all County departments. The County budgeted $25 million for its Y2K efforts.

Individual departments tackled Y2K remediation using a combination of both County IT employees and contractual IT staff. Each department designated a Y2K Representative, Y2K Building Issues Representative, and Y2K Contingency Planner who headed the department's Y2K planning efforts.

D. Questions and Additional Information

OLO asked ITD's Director of Customer Services several questions covering the following five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the answers ITD provided to OLO.**

General/Organization

1. Who are the main users of your government's IT services?

***Response*:** We are an internal support agency. For the most part, our customers are County agencies. The exception being our public access system which provides public records on-line to 500 subscribers.

2. ***How long have you been organized as you are currently, and are there any plans to change the way you are organized?***

Response: We are now reorganizing with a stronger emphasis on consulting and customer service. Last year, a Customer Service Division was added to the Department. In addition, the County recently hired a Certified Information Officer to better coordinate Countywide IT operations.

3. ***Would any organizational changes improve the quality of your IT services, and what are they?***

Response: The emphasis on customer service will improve the quality of our IT services.

4. ***What degree of interaction occurs between central and decentralized IT staff?***

Response: We do not have as much interaction between these groups as we should have. We are beginning to address this issue. The CIO has been instrumental in bringing these groups together.

5. ***What IT initiatives is the county currently working on?***

Response:

New IT initiatives include:

- 800 megahertz radio system
- Electronic Document Management System
- E-commerce
- Web-site
- GIS
- County wide computer network
- Client server applications
- Customer relationship management program
- Published Information Technology Standards

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: Our manager to worker ratio is about 12. We do not have a ratio for computer users in the area of programming support.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: Yes, we have about a ten percent vacancy rate on a consistent basis. Given internal promotional opportunities that we like to make available, it is very difficult to keep our staff numbers up.

Training our staff is a big problem, not so much the funding for training, but being able to make adequate time available to send our people to classes, particularly given the staffing shortages we have.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: Common shared services and infrastructure seem most appropriate for centralization. Business applications seem best decentralized.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: We have administrative and clerical staff who engage in IT-related activities.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

Response: It is difficult to be as responsive as we need to be to our customers, especially in light of recruitment (staffing) issues.

11. ***How do you measure whether IT functions are carried out effectively?***

Response: We are now working on establishing service levels and corresponding performance measures for the services we provide.

12. ***What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?***

Response: Customer satisfaction is a challenge to measure. Workloads are much easier to deal with.

13. ***Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?***

Response: Yes, we did a survey last year and the response was very middle of the road on the average.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: It is very difficult to measure the return on investment for implementing IT solutions, making it difficult to sell the concept and obtain project funding.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: If we have a funded project for which we do not have available staff resources, we contract out.

16. What degree of interaction occurs between IT staff and contractors?

Response: We manage the contractors we hire.

17. What benefits/problems occurred as a result of outsourcing?

Response: Turnover, lack of skills transfer when they leave.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: We do not outsource any entire functions.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response: Integration services will be most important. E-business solutions will be very important. Maintaining and expanding a solid network infrastructure will be very important. The development of customized software applications I believe will become less important.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: Yes, I feel that those functions which are high risk are those for which our in house staff has little or no experience, so are best served, at least initially, by outsourcing (e.g. e-commerce).

21. When integrating/ implementing newer IT functions into your IT organization, what issues arose?

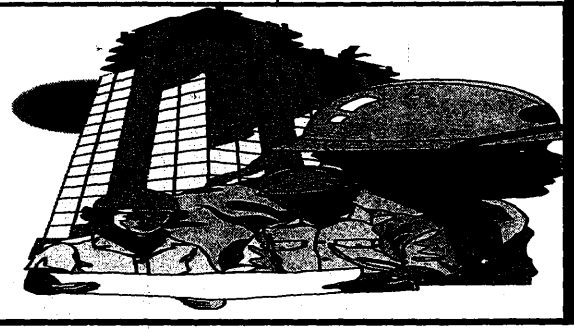
Response: Training of existing staff. Keeping pace with technology advances. Lack of experience upon which to draw. Difficult to test web based applications, because you have difficulties simulating the volume.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Miami-Dade County chapter. Several charts and tables are included.

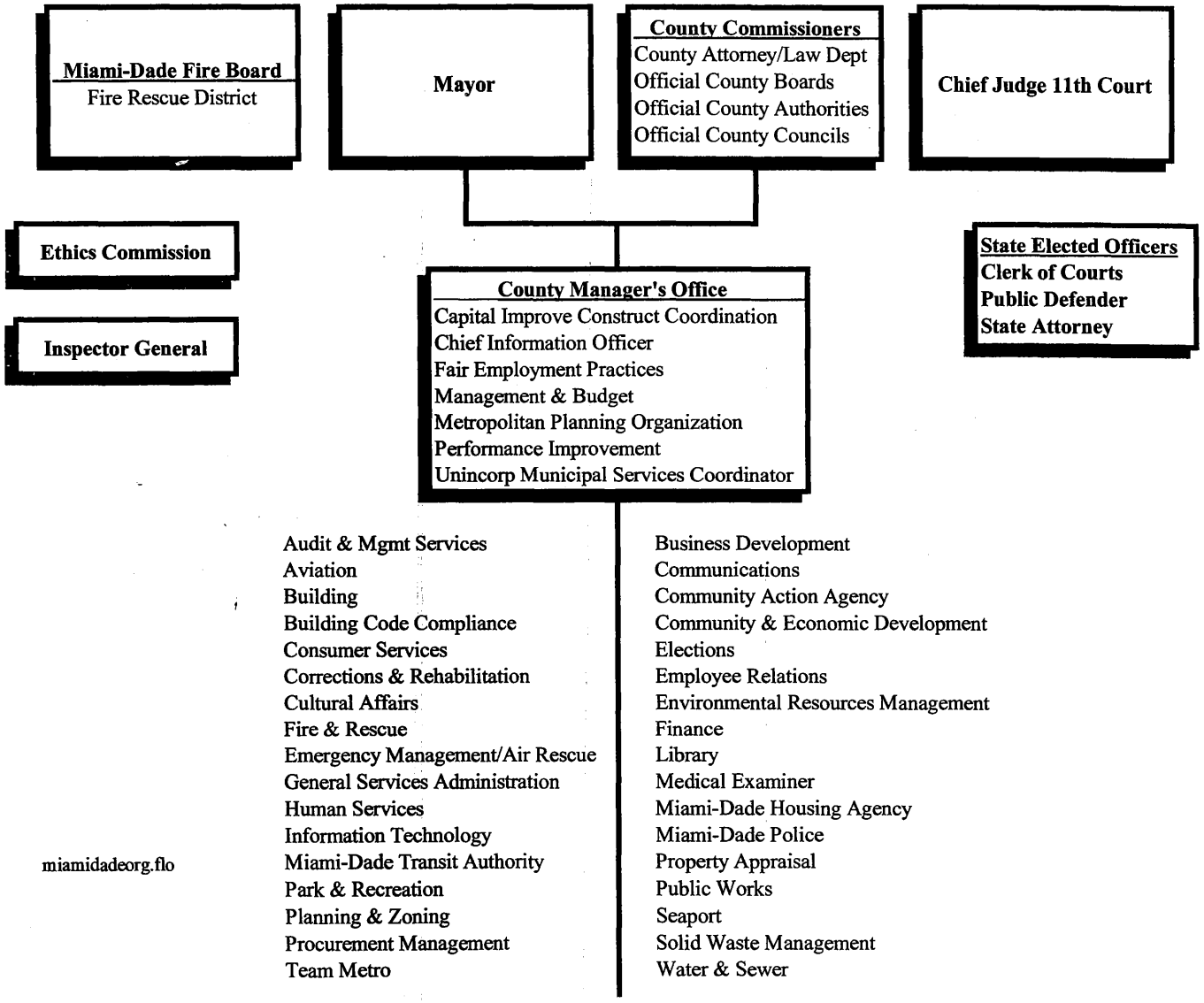
- *Miami-Dade County Profile* *143*
  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget.
- *Miami-Dade County Government Organization Chart* *144*
  Shows the current organization by functional area.
- *Miami-Dade County Government IT Organization Profile* *145*
  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions ITD staff perform or oversee throughout the County, and a list of departments in the County having five or more IT positions.
- *Organization Chart of Miami-Dade Information Technology Dept.* *146*
  Shows the high level organization of IT staffing in the divisions and offices of the department.
- *Information Technology Department Approved Staffing FY 2000* *147*
  Provides detail of the organization and staffing in the various units of the Miami-Dade central IT Department.
- *Organization Charts of Other Departments with Significant IT Staff* ..... *152 - 158*
  Shows staffing in departments (other than ITD) that have five or more full-time IT staff.

Profile of Miami-Dade County, Florida

Estimated Population	**2,100,000 (2000)**	**Largest Employers**	**American Airlines University of Miami BellSouth Burdines Dept. Stores Florida Power and Light Baptist Health Systems Mt. Sanai Medical Center K-Mart Publix Super Markets**
County Area (Square Miles)	**2,000**		
County Income (Median Household)	**$28,000 (1995)**	**County Operating Budget***	**$2.90 billion (FY 2000)**
		**Employees Supported by Central Government IT Organization**	**26,000 Positions (FY 2000)**
Form of Government: Elected County Commission / Elected Executive Mayor			
Central Government Functions	**Business Development, Environmental Services, Solid Waste Services, International Airport, Parks and Recreation, Housing Services, Transportation, Fire and Rescue, Public Safety, Human Services, Consumer Services, Economic Development, Libraries**		

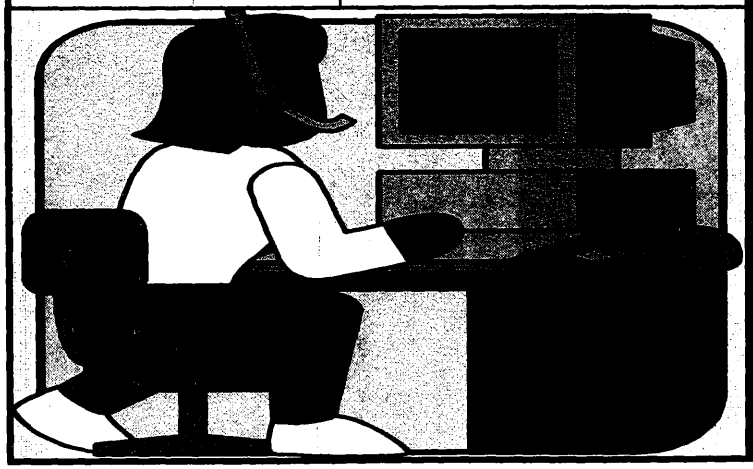
* Includes budgets for the Executive and Legislative branches and other agencies for with the Miami-Dade County Commissioners have appropriation authority.

Organization Chart of Miami-Dade County, Florida Government



Miami-Dade County, Florida
IT Organization Profile FY 2000

IT Organization Structure	**Hybrid (Unknown % centralized)**
Total IT Positions	**Unknown**
IT Position Groups	**Centralized: 500.0 — Decentralized: Unknown**
Central IT Department Operating Budget	**$69,800,000**



IT Department Functions

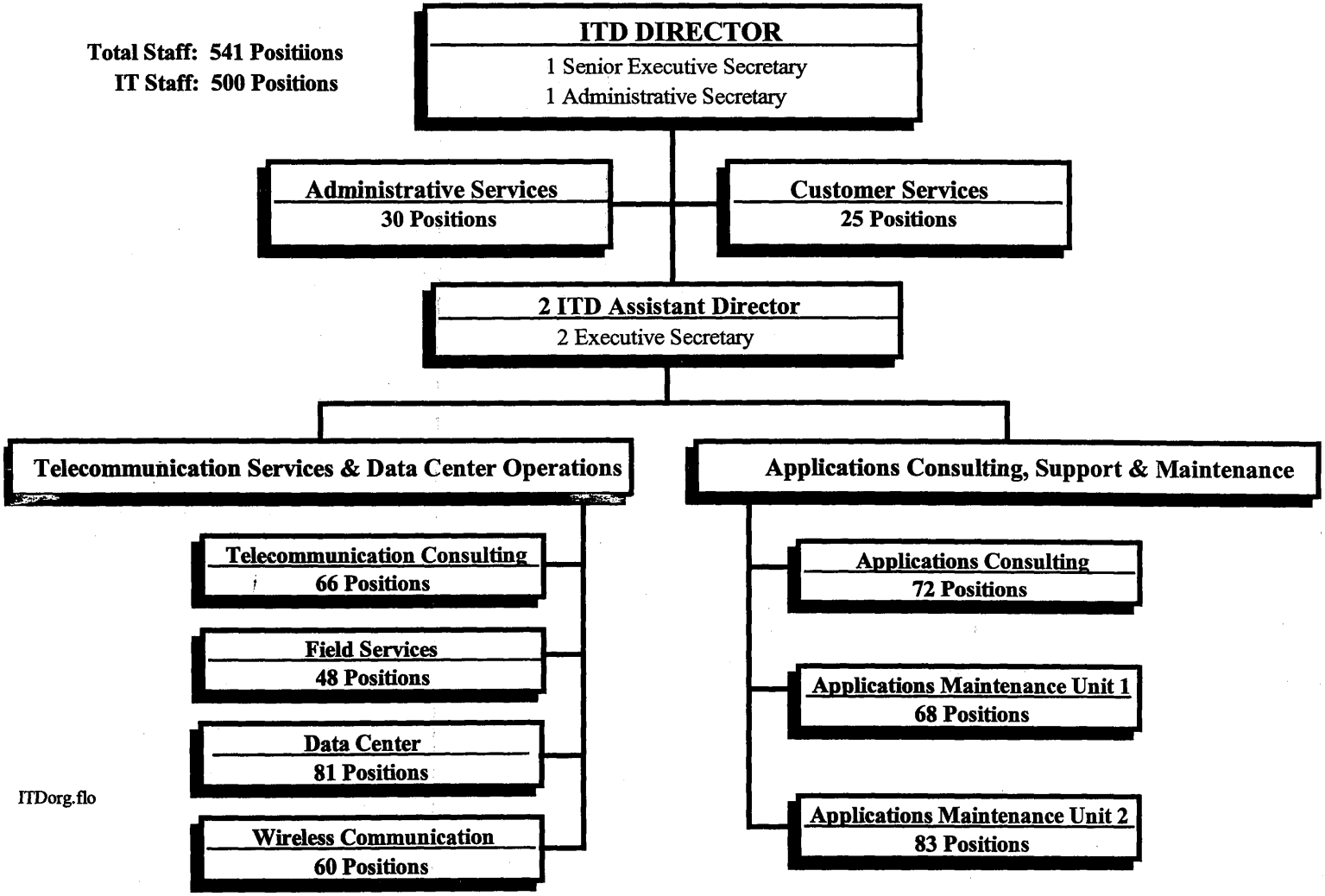
- Internet
- Intranet
- Help Desk
- IT Consulting
- Radio Operations
- Radio Maintenance
- Server Administration
- Computer Operations
- Telephone Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Telephone Maintenance
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support
- Geographic Information Systems
- Year 2000 Remediation

Departments Having Five or More IT Positions

- Water and Sewer
- Aviation
- Fire
- Police
- Environmental Resources Management
- Solid Waste
- Transit
- Public Works

IT Organization and Staffing in the Miami-Dade County Information Technology Department - FY 2000

Total Staff: 541 Positiions
IT Staff: 500 Positions



ITDorg.flo

Detail of IT department staffing within organizational unit begins on the next page

Miami-Dade County Information Technology Department Approved Staffing- FY 2000

Director's Office

1 ITD Director
1 Senior Executive Secretary
1 Administrative Secretary

Administrative Services Unit

1 Director of Administrative Services

Personnel

1 Personnel Specialist III
1 Personnel Specialist I
2 Personnel Technician

Accounting

1 Accountant III
3 Accountant II
2 Accountant I
3 Account Clerk
1 Clerk 4

Contracts/Procurement

1 Contracts and Procurement Specialist
1 Admin. Officer II
1 Admin. Officer I
2 Buyer
1 Clerk 3

Marketing and Communications

1 Computer Services Manager
1 Technical Support Analyst
1 Senior Systems Analyst/Programmer
2 Systems Analyst/Programmer 2
2 ITD Information Center Analyst 1
1 Data Production Control Specialist
1 Computer Operation Support Clerk 1

Customer Services Unit

1 Director of Customer Services

Customer Services

1 Computer Services Manager
3 Senior Systems Analyst/Programmer
2 Systems Analyst/Programmer 2
1 Systems Analyst/Programmer 1

Customer Support Services

1 Computer Services Manager
1 Network Manager 1
3 Communications Information Systems Analyst
2 Senior Systems Analyst/Programmer
1 Systems Analyst/Programmer 2
1 Technical Training Specialist 3
1 Technical Training Specialist 2
4 Computer Technician 1
1 Data Production Control Specialist
1 Admin. Officer I
1 Clerk 3

Miami-Dade County Information Technology Department Approved Staffing- FY 2000 (continued)

ITD Assistant Directors' Office
2 ITD Assistant Director
2 Executive Secretary

Telecommunication Consulting Services Unit
1 Director of Telecommunications Consulting

Enterprise Network Management
1 Systems Support Manager
9 Senior Operating Systems Programmer
7 Operating Systems Programmer
1 Computer Operation Support Clerk 2

Enterprise Network Support
1 Systems Support Manager
7 Senior Operating Systems Programmer
9 Operating Systems Programmer
3 Network System Integrator
1 Technical Support Analyst
1 Telecommunication Technician

Wide Area Network (WAN) Design/Support
1 Manager, Network Planning & Engineering
1 Network System Integrator
1 Senior Telecommunication Technician
1 Telecommunication Technician
1 Telecommunication Installer
1 Telecommunication Engineer 3
4 Telecommunication Engineer 2
1 Computer Operation Support Clerk 1

Equipment Maintenance/Repair
1 Telecommunication Supervisor
2 Senior Telecommunication Technician
9 Telecommunication Technician
1 Inventory Clerk
1 Computer Operation Support Clerk 2

Field Services Unit
1 Director of Field Services
1 Administrative Secretary

Telephone Engineering
1 Telecommunications Engineer 4
2 Telecommunications Engineer 2
1 Data Production Control Specialist

Installation/Repair Services
1 Telecommunications Manager

Telephone Maintenance/Repair
1 Telecommunications Supervisor
3 Senior Telecommunication Technician
3 Telecommunication Technician
1 Telecommunication Installer
1 Clerk 3

Parts Room Management
1 Telecommunications Supervisor
5 Senior Telecommunication Technician
5 Telecommunication Technician
1 Electronic Parts Specialist
1 Inventory Clerk

Equipment Installation Services
1 Telecommunications Supervisor
1 Senior Telecommunication Technician
3 Telecommunication Technician
3 Telecommunication Installer
1 Inventory Clerk

Telephone Customer Services
1 M-D Telephone System Supervisor
9 Communications Services Representative
1 Clerk 3

Miami-Dade County Information Technology Department Approved Staffing- FY 2000 (continued)

Data Center Services Unit
1 Director of Data Center Services

Host Control Systems
1 Systems Support Manager
7 Senior Operating Systems Programmer
4 Operating Systems Programmer
2 Technical Support Analyst
1 Systems Analyst/Programmer 1
2 Data Security Analyst

Mainframe Operations
1 Computer Operations Manager

1st Shift Operations
1 Production Support Analyst
5 Computer Operation Specialist 2
2 Computer Operation Specialist 1
2 Computer Technician 2

2nd Shift Operations
1 Computer Operations Supervisor
5 Computer Operation Specialist 2
2 Computer Operation Specialist 1
3 Computer Operation Support Clerk 2

Media Processing
1 Computer Operations Support Supervisor 2
1 Data Technical Support Specialist
2 Computer Operation Support Clerk 2

Mainframe Support
1 Computer Operations Manager

Production Job Scheduling
1 Production Support Analyst
7 Production Control Specialist

3rd Shift Operations
1 Computer Operations Supervisor
4 Computer Operation Specialist 2
3 Computer Operation Specialist 1
4 Computer Operation Support Clerk 2
3 Computer Operation Support Clerk 1

Printing/Distribution
1 Data Operations Support Supervisor
7 Computer Operation Support Clerk 2
3 Data Operations Support Clerk 2

Support Services
1 EDP Operations Supervisor
1 Systems Analyst/Programmer
1 Data Technical Support Specialist

Miami-Dade County Information Technology Department Approved Staffing- FY 2000 (continued)

Wireless Communication Services Unit
1 Director of Wireless Communications Services

Development Engineering Support
1 Telecommunications Engineer 4
1 Telecommunications Engineer 3
2 Telecommunications Engineer 2
1 Clerk 2

Infrastructure Systems
1 Telecommunications Supervisor
16 Senior Telecommunication Technician
3 Telecommunication Technician
1 Clerk 3

Radio Support Services
1 Telecommunications Supervisor
3 Senior Telecommunication Technician
15 Telecommunication Technician
7 Telecommunication Installer
1 Electronic Parts Specialist
2 Inventory Clerk
2 Clerk 3
2 Clerk 2

Applications Consulting Services Unit
1 Director of Applications Consulting Services

Consulting & Development 1
1 Computer Services Manager
3 Senior Systems Analyst/Programmer
2 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
5 Programmer

Consulting & Development 2
1 Computer Services Manager
7 Senior Systems Analyst/Programmer
1 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1

Consulting & Development 3
1 Computer Services Manager
2 Technical Support Analyst
2 Senior Systems Analyst/Programmer
3 Systems Analyst/Programmer 1
2 Programmer

Distributed Database Technical Support
1 Systems Support Manager
6 Senior Operating Systems Programmer
2 Operating Systems Programmer
2 Senior Systems Analyst/Programmer
4 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
1 Programmer

GIS Technical Support
1 Systems Support Manager
1 Senior Operating Systems Programmer
6 Operating Systems Programmer
3 Systems Analyst/Programmer 2
1 Systems Analyst/Programmer 1
2 GIS Graphic Technician 2
1 Clerk 3

Miami-Dade County Information Technology Department Approved Staffing- FY 2000 (continued)

Application Maintenance Services Unit 1

1 Director of Applications Maintenance Services 1

Criminal Justice
1 Computer Services Manager
2 Senior Systems Analyst/Programmer
5 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
1 Programmer 3
3 Programmer

MDPD/Building
1 Computer Services Manager
2 Senior Systems Analyst/Programmer
4 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
2 Programmer

Court/CAD Systems
1 Computer Services Manager
6 Senior Systems Analyst/Programmer
6 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1

Taxes/ITD Internal Systems
1 Computer Services Manager
3 Senior Systems Analyst/Programmer
5 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
2 Programmer

Database Technical Support
1 Systems Support Manager
3 Senior Operating Systems Programmer
4 Operating Systems Programmer
1 Systems Analyst/Programmer 1
1 Data Production Control Specialist

Application Maintenance Services Unit 2

1 Director of Applications Maintenance Services 2

Community Service Systems
1 Computer Services Manager
6 Senior Systems Analyst/Programmer
5 Systems Analyst/Programmer 2
6 Systems Analyst/Programmer 1
2 Programmer

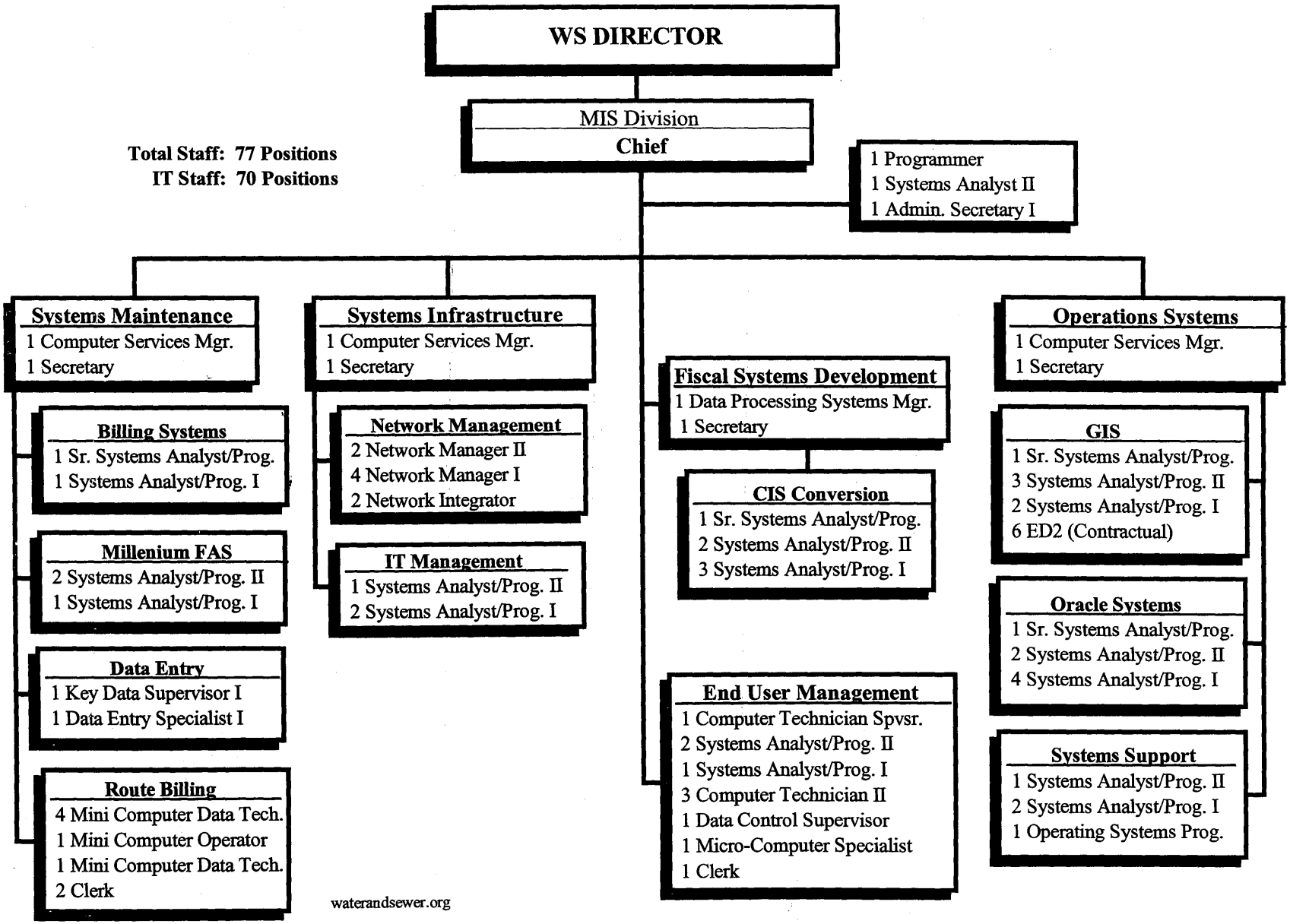
Government Administration Systems
1 Computer Services Manager
5 Senior Systems Analyst/Programmer
1 Technical Support Analyst
3 Systems Analyst/Programmer 2
1 Systems Analyst/Programmer 1
3 Programmer

TIS/SPIRIT/Parking
1 Computer Services Manager
1 Technical Support Analyst
7 Senior Systems Analyst/Programmer
4 Systems Analyst/Programmer 2
7 Systems Analyst/Programmer 1
1 Programmer

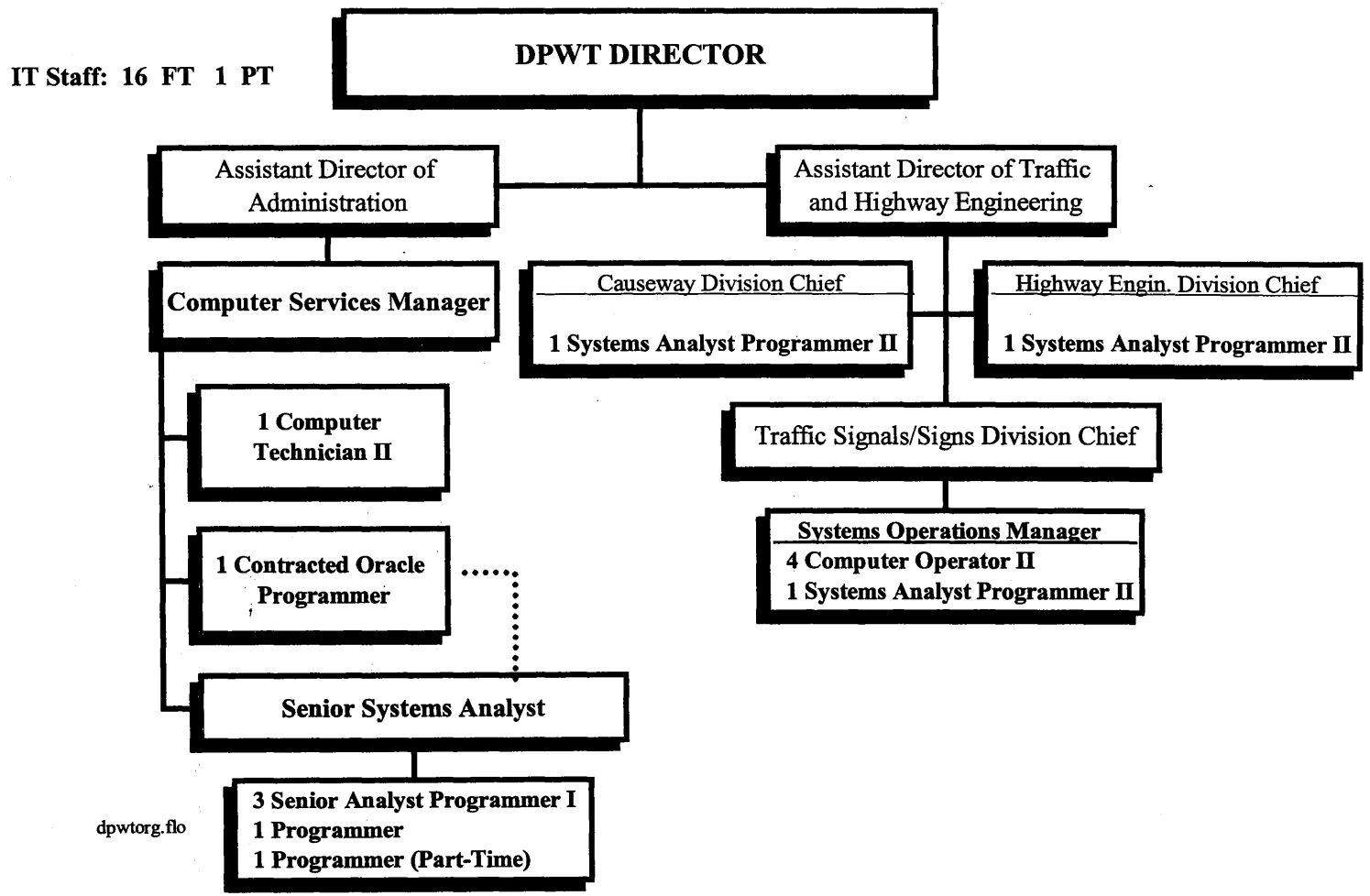
Payroll
1 Computer Services Manager
12 Senior Systems Analyst/Programmer
4 Systems Analyst/Programmer 2
3 Systems Analyst/Programmer 1
3 Programmer

UNIX Control Systems
1 Systems Support Manager
1 Senior Systems Analyst/Programmer
2 Systems Analyst/Programmer 2

IT Organization and Staffing in the Miami-Dade County Department of Water & Sewer – FY 2000



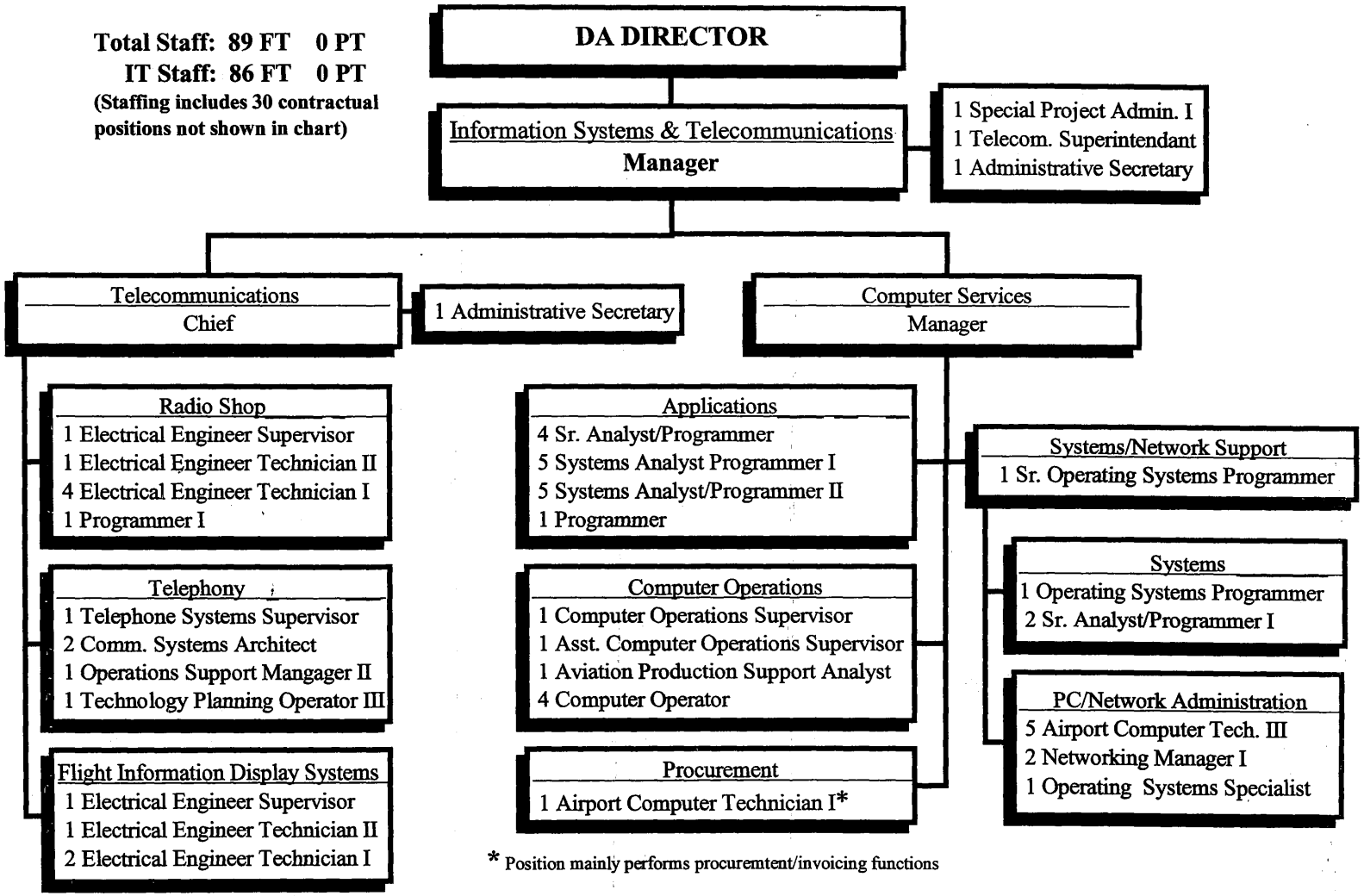
IT Organization and Staffing in the Miami-Dade County Department of Public Works & Transportation– FY 2000



Note: Each programmer reports to a Senior Analyst Programmer I

IT Organization and Staffing in the Miami-Dade County Department of Aviation – FY 2000

Total Staff: 89 FT 0 PT
IT Staff: 86 FT 0 PT
(Staffing includes 30 contractual positions not shown in chart)



* Position mainly performs procuremtent/invoicing functions

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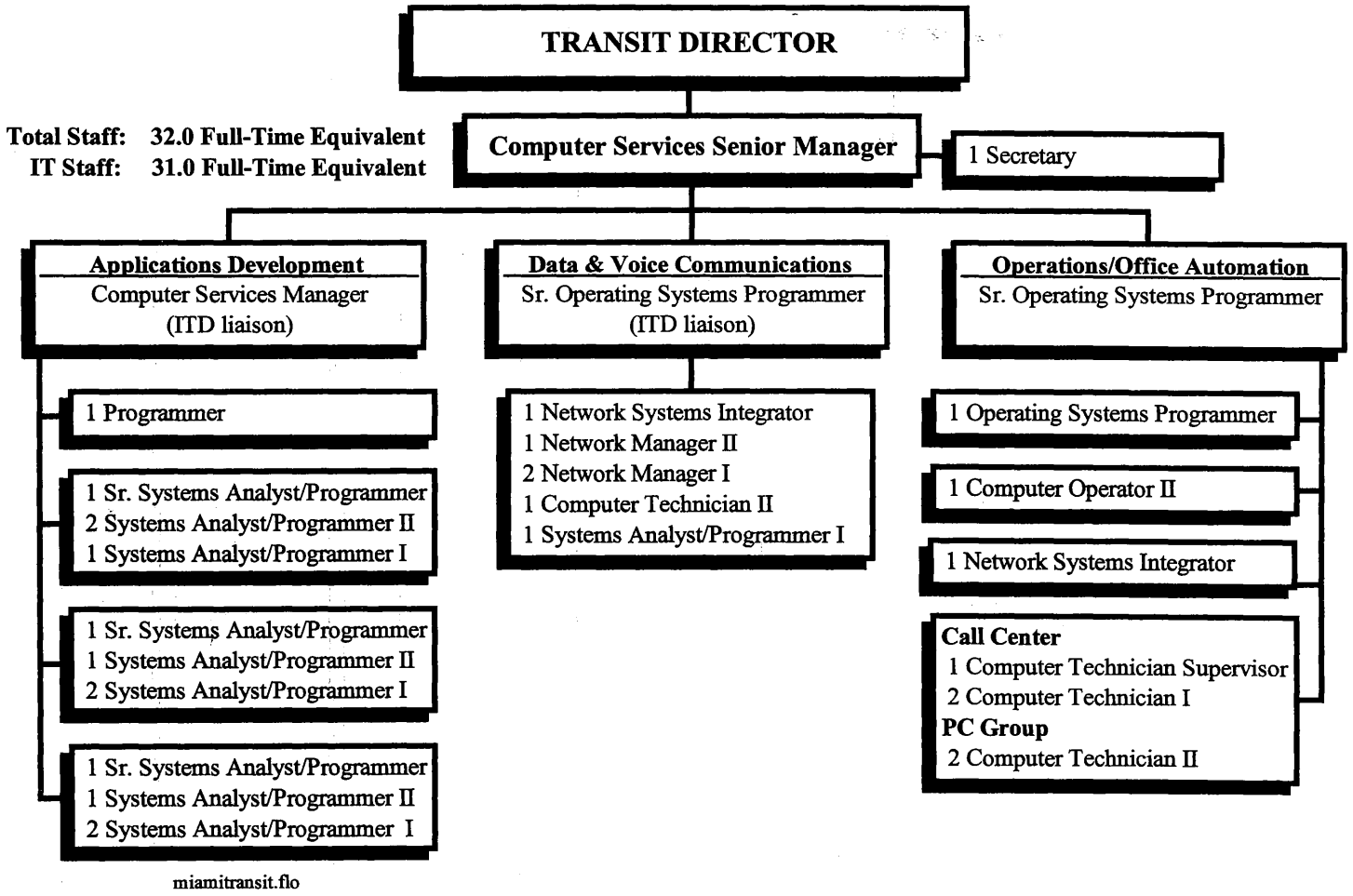
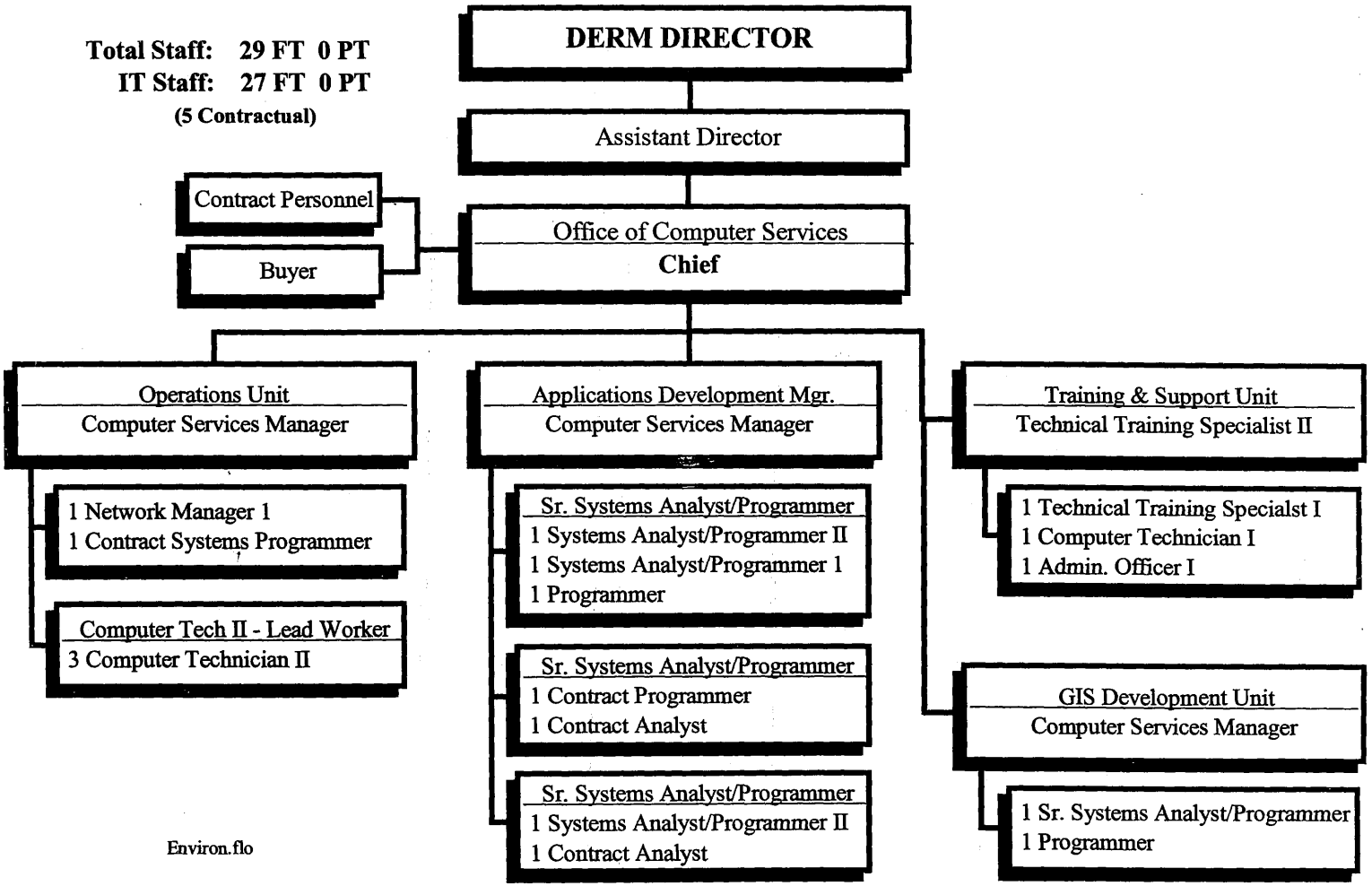
IT Organization and Staffing in the Miami-Dade County Transit Department – FY 2000

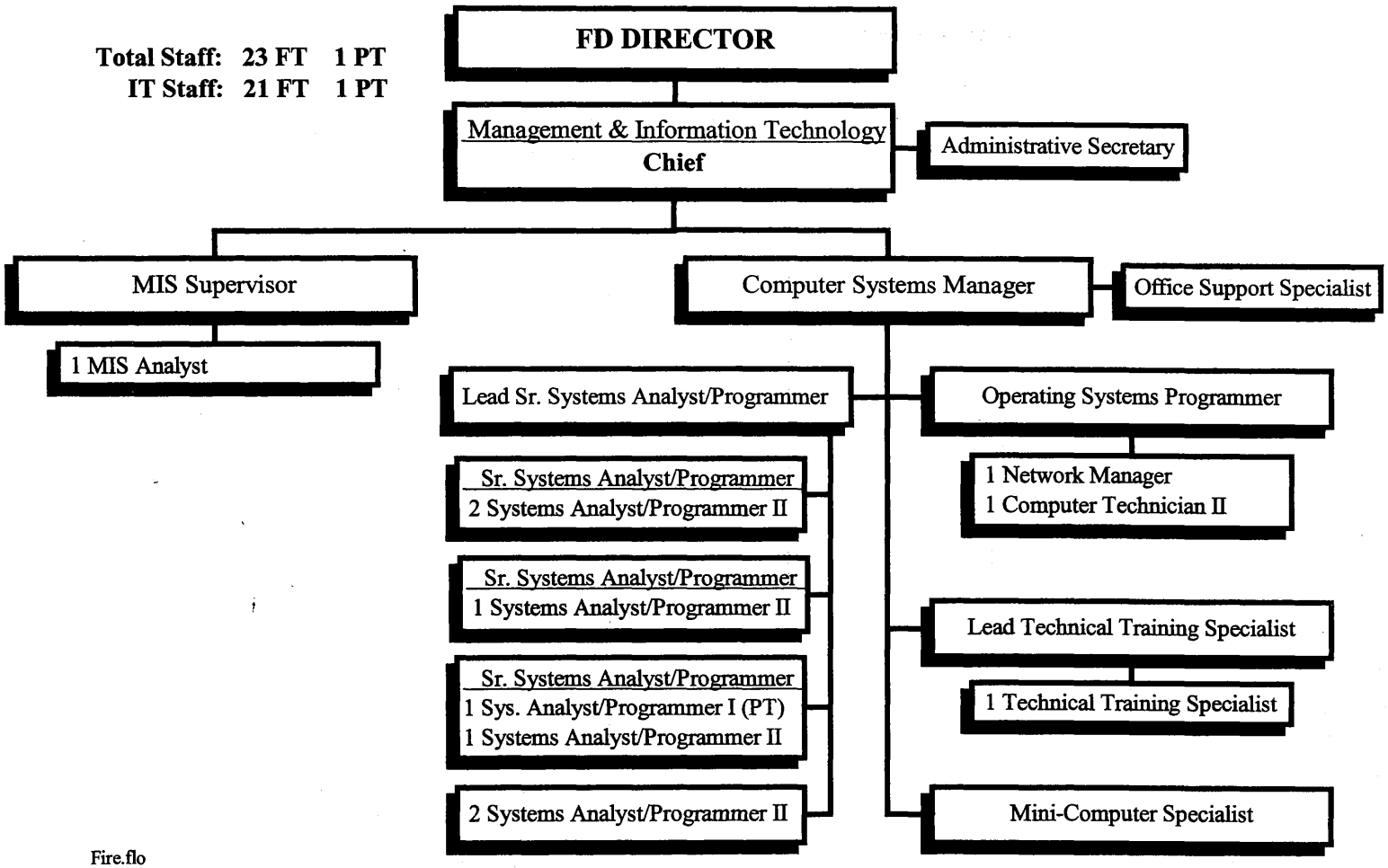


IT Organization and Staffing in the Miami-Dade County Department of Environmental Resources Management FY 2000



IT Organization and Staffing in the Miami-Dade County Fire Department – FY 2000

Total Staff: 23 FT 1 PT
IT Staff: 21 FT 1 PT



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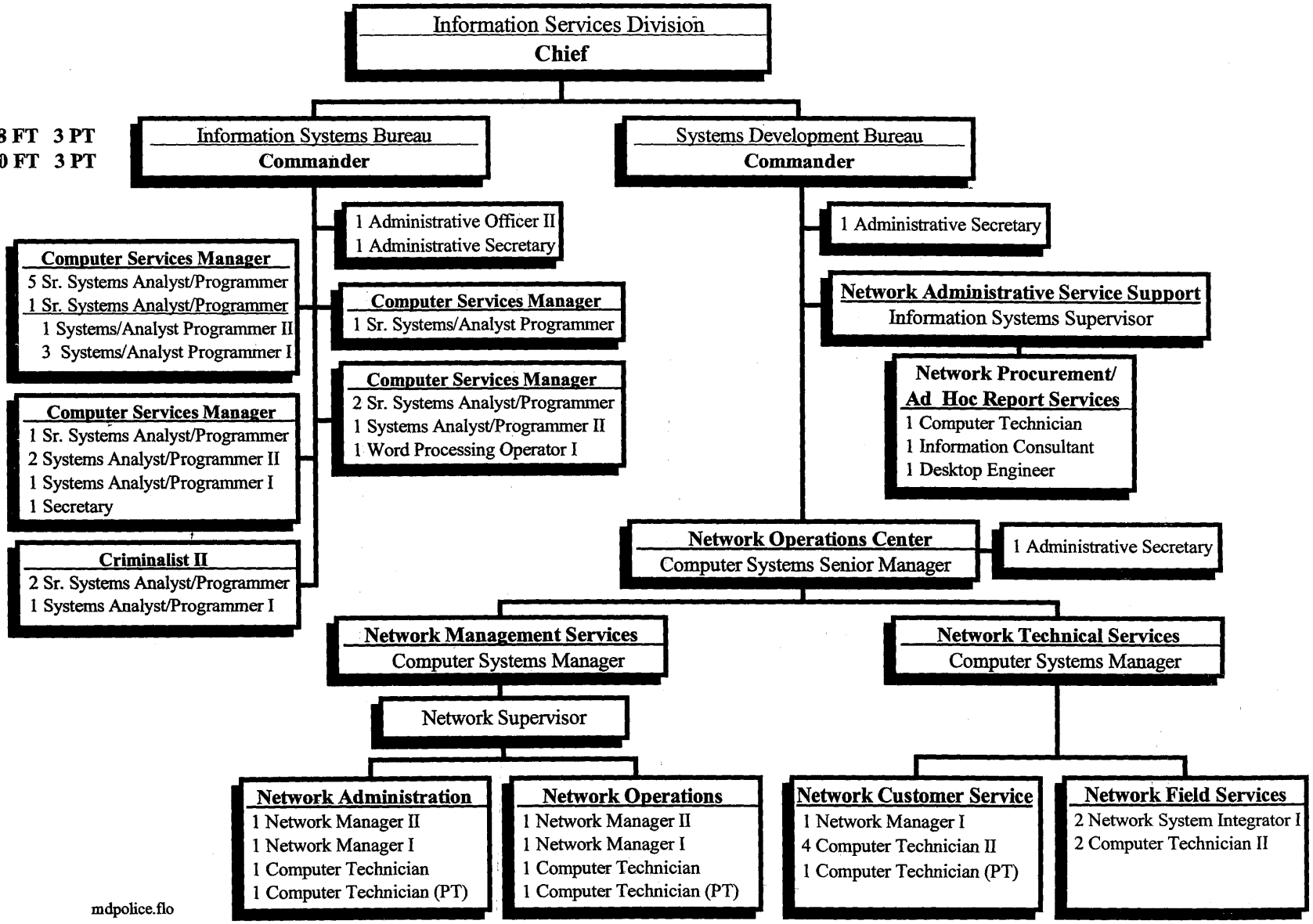
IT Organization and Staffing in the Miami-Dade County Police Department – FY 2000

Total Staff: 58 FT 3 PT
IT Staff: 50 FT 3 PT



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Chapter IX

PRINCE GEORGE'S COUNTY, MARYLAND

A. BACKGROUND 159

B. IT ORGANIZATION 159

1a. Centralized IT Staff 160

1b. Centralized Contractual IT Staff 161

2. Decentralized IT Staff 161

C. IT FUNCTIONS 162

D. QUESTIONS AND ADDITIONAL INFORMATION 162

E. SUMMARY CHARTS AND TABLES 166

IX PRINCE GEORGE'S COUNTY, MARYLAND

A. Background

Prince George's County's population is approximately 780,000 residents. The County is adjacent to Washington, DC and includes 488 square miles of land area.

Prince George's County, a body corporate and politic of the State of Maryland, was established on April 23, 1696. At that time, there was no clear separation of judicial and administrative functions. Justices admitted attorneys, interpreted the laws, and performed the County's administrative functions. The citizens adopted a Charter form of government in November 1970. Currently the County's legislative power is vested in an elected County Council and executive power in an elected County Executive. Terms for the County Council and the County Executive are four years.

Median household income for County residents in 1998 was $54,281. Several of the largest employers in Prince George's County include Giant Food, Inc., Dimensions Health Corporation, Safeway Stores, Inc., Bell Atlantic Corp., United Parcel Service, Shoppers Food Warehouse, Southern Maryland Hospital, Computer Science Corporation, and Hughes STX. The County is also the home to the Maryland University at College Park and the NASA Goddard Space Flight Center.

Prince George's County central government services include: business affairs, economic development, circuit court, family services, health, libraries, public safety, public works and transportation, social services, fire and rescue, environmental protection, and solid waste management. For FY 2000, the County Council appropriated $1.4 billion to programs and initiatives and authorized 5,589 full-time employee positions.

An organization chart of the Executive Branch in Prince George's County is located at page 168.

B. IT Organization

Prince George's County maintains an essentially centralized IT organizational structure, with 17 County IT positions in the central IT department, 98 centralized vendor IT professionals, and 1 decentralized County IT position located in the police department.

In 1995, Prince George's County signed a contract with OAO Corporation; a business solutions firm headquartered in Greenbelt, Maryland to provide the County with 98 IT staff. The contract requires OAO Corporation to perform most of the County's IT functions. County employees in the IT department are responsible for oversight of the contract which ended in June 2000.

The County established a 25 member Performance Evaluation Board at the outset of the OAO contract in 1995. The Board consists of one representative from each County department in addition to the Chief of ITD and other key administrators in ITD. The Board meets on a quarterly basis to discuss the IT vendors' performance and any problems or concerns relating to IT.

1a. Centralized IT Staff

The Information Technology Division (ITD) of the Office of Management and Budget supports the County's IT functions and manages the outsourcing contract. Employees of OAO Corporation perform the majority of IT functions.

The FY 2000 operating budget for ITD was $7.6 million, which included funding for the County's IT contractual services and 18 centralized full-time positions (IT positions = 17 full-time). Of the total 18 positions in ITD, eight staff provide IT program and systems integration management, six manage telephone services, three provide technical support, and one performs administrative duties. Currently three IT positions in ITD remain vacant, yielding an IT vacancy rate of 17.6% for the department.

ITD hires temporary employees or enters contractual relationships with private sector IT professionals to augment staff, add technical expertise, assist with monitoring the County's outsourced effort, and help with IT strategic planning. The County allocated $250,000 for contract staff this year.

In addition to budget allocations made to ITD, the County uses an IT Projects Fund for IT infrastructure projects. For FY 2000, the Prince George's County Council approved $4.1 million for the IT projects fund. This fund financed several IT projects to increase efficiency in the following functional areas: public safety, courts, facilities management, corrections, and public works. A list of the IT projects financed through the IT Projects Fund is located at page 172.

Below is a list of ITD's organizational units on January 1, 2000.

Division Chief and *Deputy* (2 full-time positions)
Administration (2 full-time positions)
IT Program Management (4 full-time positions)
IT Systems Management (2 full-time positions)
Telephone Services (8 full-time positions)

- The Division Chief and Deputy set policies and procedures, establish budgets, administer the daily operations of the department, and manage the vendor contract.
- The *Administration* unit provides support to the Chief of ITD, in addition to providing other administrative duties for other divisions in ITD.
- *IT Program Management* staff are liaisons to contracted IT staff, provide program management, and interface with agencies.
- *IT Systems Management* staff coordinates senior engineering level IT consulting services, including system architecture, design, and planning.

- *Telephone Services* staff are responsible for planning and managing the County's telephone system, including equipment moves, adds, changes, telephone billing, and customer support.

An organization chart of ITD is located at page 170.

1b. Centralized Contractual IT Staff

For FY 2000, the County spent approximately $6.0 million to fund one year of the OAO contract, which authorizes 98 full-time IT professionals to execute the County's major IT responsibilities. OAO staff operate from an on-site government facility. OAO's group of staff is referred to internally as the Data Processing Facilities Management Organization.

Of the IT service provider's 98 full-time positions in DPFMO, two were vacant as of January 1, 2000, yielding an IT vacancy rate of just over two percent for the contractor.

A list of OAO Corporation contractual IT positions is located at page 171.

2. Decentralized IT Staff

One IT position is located in the Police Department. This person is responsible for all of the County's radio operations activities.

The Chief of ITD estimates that within a few agencies there are some non-IT employees who perform various levels of direct IT support. This staff perform less than 2% of the County's total IT effort.

C. IT Functions

Prince George's County's IT division is responsible for a variety of IT functions. The table below shows the County's major IT functions, along with ITD's estimate of the amount of centralized, decentralized, contracted staff, and outsourced activities.

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	0	0	0	1	0
Systems Development	100	0	0	4	0
Systems Maintenance	100	0	0	0	0
Desktop Computer Support	90	10	0	1	0
Geographic Info. System (GIS)	100	0	0	0	0
Internet	50	50	0	0	0
Intranet	100	0	0	0	0
E-Commerce	0	0	0	0	0
Local Area Network (LAN)	100	0	0	0	0
Wide Area Network (WAN)	100	0	0	0	0
Server Administration	100	0	0	4	0
Help Desk	100	0	0	0	0
Computer Operations	100	0	0	0	0
Systems Programming	100	0	0	0	0
Telephone Operations	0	100	0	1	0
Telephone Maintenance	60	40	0	0	0
Radio Operations	0	0	100	0	0
Radio Maintenance	100	0	0	0	0

Notes The number of centralized contracted staff shown in the above table represent ITD contracted staff (in addition to the County's contract with OAO. The efforts of OAO employees are shown in the Percent Function is Outsourced column. The one decentralized function (radio operations) is performed by one position located in the County's Police Department.

D. Questions and Additional Information

OLO asked the Chief of ITD several questions covering the following four areas: IT organization, staffing, evaluation of IT services, and outsourcing. **This section contains the answers ITD provided to OLO.**

General/Organization

1. ***Who are the main users of your government's IT services?***

Response: County employees and citizens.

2. ***How long have you been organized as you are currently, and are there any plans to change the way you are organized?***

Response: DPFMO [the contractor's organization] is evaluating its current organization to see if changes are needed to improve the overall service to the County.

3. ***Would any organizational changes improve the quality of your IT services, and what are they?***

Response: The County recently elevated the status of its IT and communication functions with the creation of a new cabinet-level agency to be known as the Office of Information Technology and Communications (OITC). Also, the roles and responsibilities of County staff and DPFMO must be defined, as well as responsibilities of both ITD and DPFMO to County customers.

4. ***What degree of interaction occurs between central and decentralized IT staff?***

Response: DPFMO [the contractor's organization] conducts weekly staff meetings with ITD and special projects require weekly status meetings between DPFMO and ITD. Additionally, the County meets weekly with the DPFMO program managers.

5. ***What IT initiatives is the county currently working on?***

Response: We instituted an 800 MHz radio system, which is now under the direction of the Public Safety Communications Office. We also developed a website as well as a new Permits system and Snowtrak system.

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: No.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: It is difficult to hire good people at the current approved salary levels. What is essential to developing good staff are competitive salaries and on-going technical training.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: Centralized-server location and support, infrastructure monitoring and control, application and system development. Decentralized-trained "power" users in every office to assist with on-the-job training of the average user and to be a point of contact for the IT staff to facilitate communication to all customers and assist IT with special problems.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: Yes.

Evaluation

10. How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?

Response: A "B" rating. The Help Desk (Network/Desktop support) is focusing on improving the use of tools that they use to answer more calls directly and require fewer on-site visits.

11. How do you measure whether IT functions are carried out effectively?

Response: By customer satisfaction surveys.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: The amount of change during the past six months made it difficult to provide the highest level of service to the customer and to evaluate our services. The Help Desk and technical services functions are easiest to evaluate. However, we would like more customer feedback.

13. Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?

Response: Customer satisfaction surveys rate overall service as very good in most areas.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: No process in place for true evaluation of IT department. There are no obstacles that exist for evaluating our IT service provider because the Performance Evaluation Board meets on a quarterly basis and evaluates the provider.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: On an as needed basis. When current staff are not qualified for functions.

16. What degree of interaction occurs between IT staff and contractors?

Response: Weekly meetings with contractor Program Manager. Also there are monthly joint meetings of County and contractor staff. Lastly, there are weekly status meetings for special projects.

17. What benefits/problems occurred as a result of outsourcing?

Response: Outsourced staff are quicker and sometimes more knowledgeable personnel, but the budget impact and lack of familiarity with County procedures has been a problem for us.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: Yes. Outsourcing did not necessarily improve the effectiveness or efficiency of our IT organization. It just provides quicker coverage.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response: Growth: providing more information to citizens and providing that information 24 hours a day; providing end user capabilities and to show customers how to do more for themselves - improve tools to use the information that they have (capability to create ad-hoc reports); increased training to County customers.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: Yes. The direct relationship with the customer should remain in-house and should include the development of new requirements and overall strategic planning to provide the County the most cost effective IT service. The on-going support of IT and implementation of new initiatives should be contracted out.

21. When integrating/ implementing newer IT functions into your IT organization, what issues arose?

Response: With regard to our new email and Computer Aided Dispatch (CAD) systems which were recently put in place, proper planning was cut short because of the need to accomplish certain tasks prior to Y2K. In the future, more time will be allocated to proper planning and pilot programs will be used to verify that all issues have been identified prior to the final implementation of major changes.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Prince George's County chapter. Several charts and tables are included.

- *Prince George's County Profile* *167*

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget

- *Prince George's County Executive Branch Organization Chart* *168*

  Shows the current organization by functional area.

- *Prince George's County IT Organization Profile* *169*

  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions performed throughout the County, and a list of departments in the County having five or more IT positions.

- *Organization Chart of the Information Technology Division* *170*

  Shows the organization of IT staff in the divisions and offices of the central IT division, which is located in the County's Office of Management and Budget.

- *Positions in the Data Processing Facilities Management Organization* *171*

  Shows organization and staffing for IT services provided through the contract with OAO Corporation.

- *List and description of projects financed through the IT Projects Fund* *172*

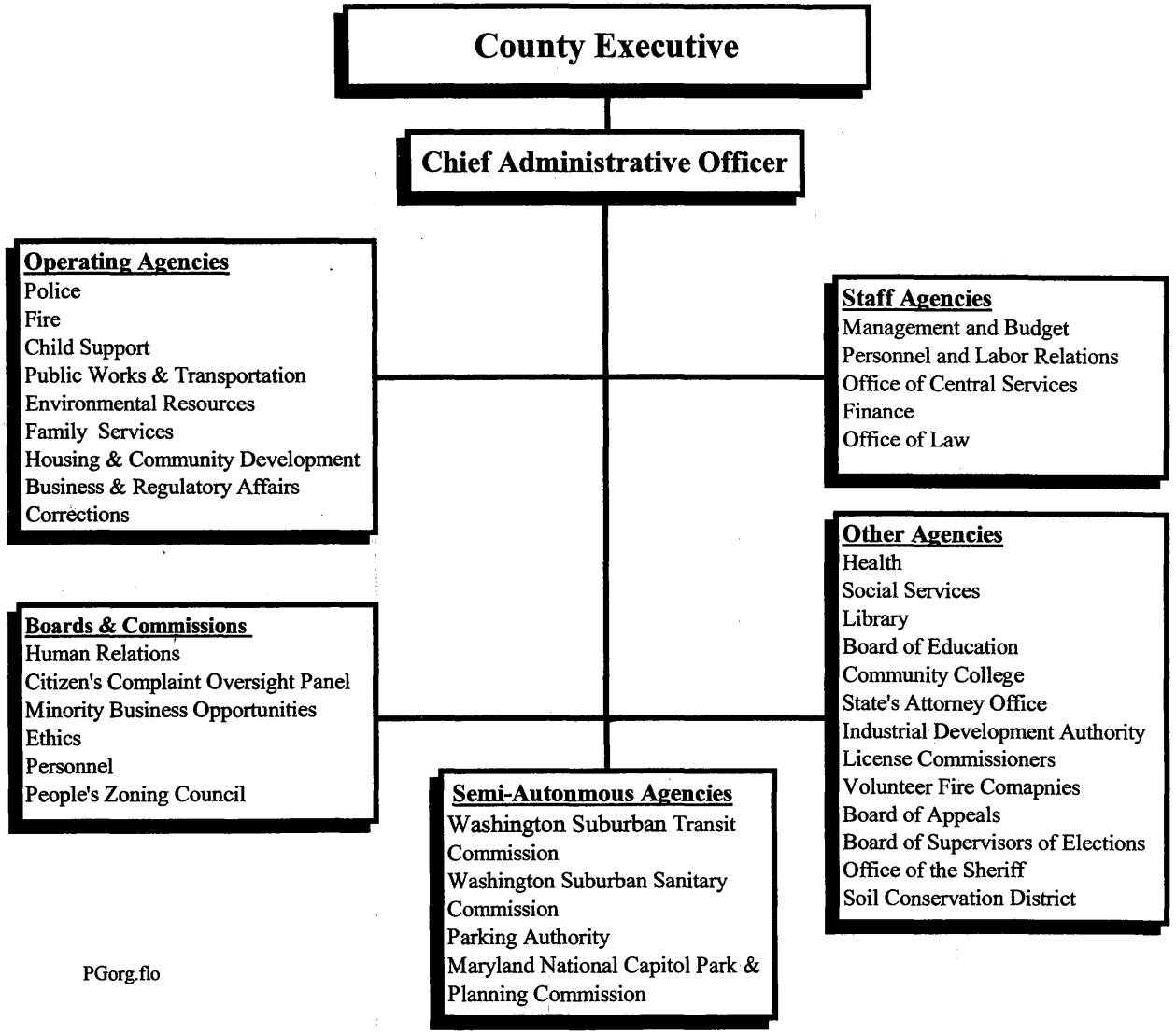
  Lists and describes the IT projects financed through the County's IT Projects Fund for FY 2000.

Profile of Prince George's County, Maryland

Estimated Population	**777,811 (1998)**	**Largest Employers**	**Giant Food, Inc. Dimensions Health Corp. Safeway Stores, Inc. Bell Atlantic Corp. United Parcel Service Shoppers Food Warehouse Southern MD Hospital Hughes STX**
County Area (Square Miles)	**488**		
County Income (Median Household)	**$54,281 (1998)**	**County Operating Budget***	**$1.4 billion (FY 2000)**
		**County Employees Supported by the Information Technology Division (ITD)**	**5,589 Full-Time Equivalent (FY 2000)**
Form of Government: Elected County Council / Elected County Executive			
Central Government Services	**Business Affairs, Economic Development, Circuit Court, Family Services, Health, Libraries, Public Safety, Public Works and Transportation, Social Services, Fire and Rescue, Environmental Protection, Solid Waste Management**		

* Includes all Executive, Legislative, and judicial functions, as well as debt service and education appropriations.

Organization Chart of Executive Branch in Prince George's County, Maryland



Prince George's County, Maryland
IT Organization Profile FY 2000

IT Organization Structure	**Centralized (99+ percent)**
Total IT Positions	**18 FTE (plus 98 vendor staff)**
IT Position Groups	**Centralized: 18.0 FTE; Decentralized: 0 FTE (plus 98 centralized vendor staff)**
Central IT Department Operating Budget	**$7,600,000 (FY 2000)**

IT Department Functions

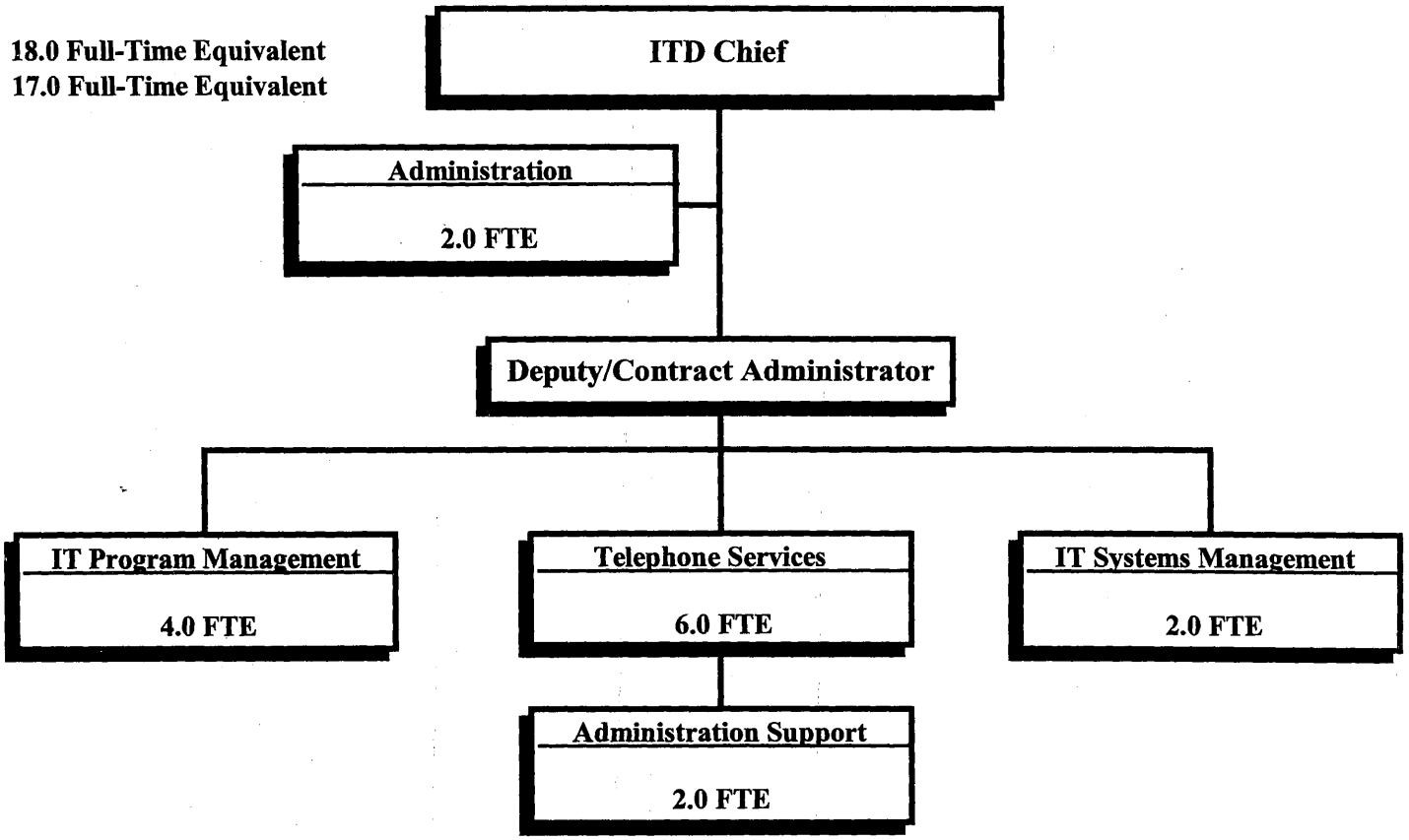
- Internet
- Intranet
- Help Desk
- IT Consulting
- Radio Maintenance
- IT Strategic Planning
- Server Administration
- Computer Operations
- Telephone Operations
- Systems Development
- Systems Maintenance
- Systems Programming
- Telephone Maintenance
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Desktop Computer Support
- Geographic Information Systems
- Y2K Remediation

Departments Having Five or More IT Positions

None

IT Organization and Staffing in the Prince George's County Information Technology Division - FY 2000

Total Staff: 18.0 Full-Time Equivalent
IT Staff: 17.0 Full-Time Equivalent



Note: One non-IT staff works in Administration.

ITD/OMB.flo

A listing of IT positions provided through the IT services contract with OAO Corporation begins on the next page

Positions Assigned to Prince George's County by the IT Services Contractor (OAO Corporation)

Management
1 Program Executive
1 Administrative Manager
1 Administrator
Total Full-Time Positions = 3.0

Computer Systems Operations
1 Operations Manager
1 Sr. Systems Programmer
1 Data Security Officer
2 Production Control Specialist
1 Data Entry Supervisor
3 Shift Supervisor
1 Shift Supervisor III
3 Console Operator III
2 Console Operator I
2 Data Entry Clerk
Total Full-Time Positions = 17.0

Applications, System, & Database Maint./Develop. & Y2K
4 Analyst VII (Corrections/CAD, Courts, Permits, Y2K)
1 Sr. Project Manager
1 Analyst VII (Database Administration)
1 Applications Specialist
4 Sr. Applications Maintenance Manager
3 Jr. Applications Maintenance Manager
2 Client Development Support Specialist
6 Senior Systems Analyst
10 Systems Analyst II
2 Database Analyst II
5 Programmer II
2 Programmer I
1 Programmer I (temporary)
Total Full-Time Positions = 42.0

Physical Security and Inventory Management
1 Administrator I
1 Inventory Specialist
Total Full-Time Positions = 2.0

Network and Telecommunications Services
1 Network Manager
1 Applications Specialist Trainer
1 EU Trainer III
2 EU Trainer II
1 Help Desk Support III
3 Help Desk Support II
7 Personal Computer Technician
1 LAN Support Manager
11 LAN Support Technician
1 Senior Network Engineer
2 Telecommunications Service Engineer
2 Telecommunications Specialist I
1 Telecomm. Specialist I/Master Electrician
Total Full-Time Positions = 34.0

Total Contractual IT Staff = 98 Full-Time Positions

Projects Financed Through the IT Projects Fund ($4.1 million - FY 2000)

- Records Management System: a database that supports the County's Computer Aided Dispatch System (CAD) by letting County employees manage records of emergency and non-emergency fire and police dispatches throughout the County.

- Facilities Inventory Management System: a database that supports the County's management of government facilities by letting County employees schedule maintenance and other services for County government buildings and infrastructure.

- Police Mobile Data Terminal System: a computer networking system that connects police lap-top computers, located in police cars, to one another as well as to the County's mainframe computer network.

- Public Works Tracking System: a database that supports the Department of Public Works' management of streets, street lights, fire hydrants, drains, and other public works infrastructure by letting County employees keep better track of infrastructure conditions and maintenance.

- Courts Management System: a database that supports court employees with scheduling County courtrooms, tracking judges' daily work schedules, and managing all cases that fall under the jurisdiction of County courts.

- Correctional Management System: a database that enables employees of the County's correctional facilities to keep track of populations within various detention centers.

Chapter X

INDIANAPOLIS-MARION COUNTY, INDIANA

A. BACKGROUND 173

B. IT ORGANIZATION 173

1a. Centralized IT Staff 174

1b. Centralized Contractual IT Staff 174

2. Decentralized IT Staff 175

C. IT FUNCTIONS 175

D. QUESTIONS AND ADDITIONAL INFORMATION 176

E. SUMMARY CHARTS AND TABLES 180

X INDIANAPOLIS-MARION COUNTY, INDIANA

A. Background

Indianapolis-Marion County had a population of 813,405 residents in 1998. The County is geographically located within the borders of the City of Indianapolis, which consists of 402 square miles of land area.

The unified government between the City of Indianapolis and Marion County began in 1971. The City/County government consists of a Legislative, Executive, and Judicial branch. Legislative power is vested in a 29-member elected City/County Council, and executive power is vested in an elected Mayor. The Mayor and Councilors may serve an unlimited number of four-year terms. Voters throughout the City/County elect four of the Council members, and residents in geographical districts elect the remaining 25 members.

Median household income was $33,695 for residents in 1995. Some of the largest employers in Indianapolis-Marion County include Eli Lilly & Company, Conseco, Clarion Health, Bank One Indianapolis, Allison Transmission/Engine, United Airlines, Federal Express, Navistar International Transportation, Ford, General Motors.

Indianapolis-Marion County government services include: circuit, superior, and municipal courts, environmental protection, flood control, parks and recreation, transportation, hospital, and public safety. For FY 2000, the City/County Council appropriated $710.4 million to programs and initiatives and authorized 6,326 full-time employee positions.

An organization chart of the Indianapolis-Marion County Government is located at page 182.

B. IT Organization

Indianapolis-Marion County maintains an essentially centralized IT organizational structure. There are 14 full-time IT positions in the central IT department, about 100 centralized vendor staff, and 2 full-time decentralized IT positions (1 in the Prosecutor's Child Support Division and 1 in the Court Administrator's Office). Additionally, the City/County has an IT governance process, including an IT Board, seven IT functional groups, and an IT Team.

In December 1995, Indianapolis-Marion signed a contract with SCT Corporation, a business and technology solutions firm headquartered in Malvern, Pennsylvania to perform the majority of their IT functions. Staff in the City/County's central IT department oversee the service level agreement that is scheduled to end in December 2002. The contract allows for three one-year renewal periods.

Indianapolis-Marion has one other contractual relationship with a private sector IT firm, The Convergent Group, for expertise in the field of Geographic Information Systems (GIS). The vendor provides three full-time GIS specialists to augment County IT staff. The current contract is effective for one year.

Indianapolis-Marion's central IT unit is called the Information Services Agency (ISA). Staff in ISA manage the IT outsourcing contracts, provide telephone and radio services, and perform other IT related duties.

1a. Centralized IT Staff

The FY 2000 operating budget for ISA was $24.3 million, which included funding for IT contractual services and 29.0 full-time County positions (IT positions = 14.0 full-time). On January 1, 2000, ISA had three vacant IT positions, yielding a vacancy rate of 21.4 percent for the Agency.

Below is a list of ISA's organizational units on January 1, 2000.

Director and Deputy Directors (3.0 full-time positions)
Administration Team (10.0 full-time positions)
Geographic Information Systems Team (8.0 full-time positions)
Telephone Operations Team (5.0 full-time positions)
Internet Team (3.0 full-time positions)

- The *Director,* who is the Chief Information Officer, is assisted by two *Deputy Directors* in strategic planning and coordinating with the IT board and functional groups, setting policies for the IT office, and overseeing the daily operations.
- Staff on the *Administration Team* handle billing, collections, and vendor contract compliance; maintain customer relationships with user departments/agencies to advocate their positions and needs with the vendors; and provide, guidance, advice and project management assistance on some departmental larger efforts.
- The *Geographic Information Systems Team* works with all of the departments and agencies on special GIS applications needed for their program areas.
- The *Telephone Operations Team* handles all City/County telephone and cellular services, and interactive voice response needs.
- The *Internet Team* oversees Internet web page development and assists department/agency Web Stewards in keeping their web pages up-to-date.

An organization chart of ISA is located at page 184.

1b. Centralized Contractual IT Staff

For FY 1999, the City/County's main IT contractual agreement equaled approximately $23 million. This service level agreement authorizes SCT Corporation to provide most of the City/County's major IT functions. SCT Corporation staff operate at an on-site government facility. The acting CIO estimates that SCT Corporation uses approximately 90-100 IT staff to provide contracted IT services.

The City/County's other contractual agreement authorizes three IT professionals to augment ISA's GIS services. Primarily, the three staff hired under this arrangement are responsible for some GIS related application development work and data cleanup (too extensive for ISA to handle alone).

In addition, these staff ensure GIS hardware and software infrastructure is in place, perform data quality audits and updates, prepare a Strategic Implementation Plan, and perform some ongoing data maintenance, database updates, and project management.

2. Decentralized IT Staff

Indianapolis-Marion County does not have a significant number of IT positions in the departments and offices outside of ISA. There are 2.0 full-time decentralized IT positions. One full-time IT employee is located in the Prosecutor's Child Support Division, and the other position is located in the Court Administrator's Office (both employees perform desktop computer support).

Many non-IT staff in the departments also perform some IT activities as part of their jobs.

C. IT Functions

Indianapolis-Marion County's IT staff are responsible for a variety of IT functions. The table below shows the City/County's major IT functions, along with the Acting CIO's estimate of the amount of centralized, decentralized, contracted, and outsourced activities:

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	20	80	0	1	0
Systems Development	95	5	0	6	0
Systems Maintenance	97	3	0	5	0
Desktop Computer Support	90	3	7	30	0
Geographic Info. System (GIS)	30	70	0	3	0
Internet	50	50	0	2	0
Intranet	30	70	0	1	0
E-Commerce	0	0	0	0	0
Local Area Network (LAN)	100	0	0	2	0
Wide Area Network (WAN)	100	0	0	3	0
Server Administration	100	0	0	3	0
Help Desk	100	0	0	14	0
Computer Operations	100	0	0	10	0
Systems Programming	100	0	0	6	0
Telephone Operations	0	100	0	0	0
Telephone Maintenance	0	100	0	0	0
Radio Operations	0	100	0	0	0
Radio Maintenance	0	100	0	0	0
Other: Project Management	50	50	0	1	0

Note The centralized contracted staff shown for the GIS function in the above table provide services through a contract with The Convergent Group. The remaining staff shown in the column are estimated IT professionals working through the County's larger service contract with the SCT Corporation

D. Questions and Additional Information

OLO asked the Indianapolis-Marion County Acting Chief Information Officer (CIO) several questions covering the following four areas: IT organization, staffing, evaluation of IT services, and outsourcing for IT services. **This section contains the answers the Acting CIO provided to OLO.**

General/Organization

1. Who are the main users of your government's IT services?

***Response*:** Primary users are government employees, secondary users are the general public.

2. How long have you been organized as you are currently, and are there any plans to change the way you are organized?

Response: The current organizational structure became effective in December 1995. The structure might change at the end of 2002 when outsourcing contract expires.

3. Would any organizational changes improve the quality of your IT services, and what are they?

Response: Our governance structure, which is three-tiered, might improve with fewer layers and overlapping boards. Also for daily organizational changes if there were more auditing of service levels there would be improvements.

4. What degree of interaction occurs between central and decentralized IT staff?

Response: Our governance structure provides for monthly meetings of IT Teams and IT Function Groups for regular interaction.

5. What IT initiatives is the county currently working on?

Response:

- **Infrastructure:** We have an old fiber optic backbone that provides 10 megabit to the desktop. New applications are driving the need to upgrade to 100 megabit. Also, the new personal computers we purchase regularly, beginning in June will be so fast that some of the applications won't run without a bigger "pipeline". We are planning to phase in a new gigabit infrastructure.
- **Document Management:** Developing enterprise-wide standards between different divisions. This is a big effort and greatly needed in a few areas.
- **Property System:** We are looking to implement a new property assessment system. Our legislature wants to change the way properties in our City/County are being assessed.
- **Accounting Package:** Our old mainframe financial applications (Accounts Receivable, Accounts Payable, and Payroll) need a new platform. It is a huge effort to change this.

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: Although industry recommendations exist, this formula does not exist in our vendor contract. The service provider contract requires additional staff for every 200 additional desktops brought into the enterprise; however, the inventory the vendor maintains is so full of inaccuracies, the information cannot be used to add additional staff. We also do not have a manager to worker ratio for IT operations staff.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: We have had consistent difficulty in staffing all phases of IT because the salaries provided by government, and the dollars provided in the IT service contract have not increased incrementally every year to keep up with private industry. The demand is greatest in Internet development and desktop and server support, and there always seems to be vacancies in those areas.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: Because our City/County government has about 30 remote locations around town, some of the desktop support should be more decentralized. Most of the other IT functions are appropriately centralized and coordinated.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: Yes - because we have a service provider, this site is heavy in the number of government staff who have non-IT related job titles, but perform part of their job as IT functions. A Compass Study done in 1998 reported Indianapolis had a larger-than-normal number of those types of IT support staff among the regular employees.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

Response: Our current organization has weak places. Weaknesses occur in Help Desk and Desktop Service levels, and in Applications Development projects and methodology.

11. How do you measure whether IT functions are carried out effectively?

Response: By performing audits of measurable service levels enumerated in our contract with the outsourced vendor.

12. What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?

Response: Evaluations are ineffective if the problem being measured does not have accurate or complete records. The IT services easiest to evaluate are mainframe related since that was the main platform when the outsourcing contract was put into place in 1995.

13. Have you or any other government representative ever asked any county employees about their satisfaction with IT services- if so what did they say?

Response: It is our job to discuss satisfaction with IT services daily. Although no formal survey has been done for two years, City/County employees are generally dissatisfied for one of two reasons: (1) they have had one or more bad experiences with their IT services, or (2) they may have an uneducated perception or expectation, such as a response time for IT services that differs from what the vendor is required to provide.

14. What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?

Response: The IT department is evaluated on successes for improved service or new services provided by the vendor. Obstacles for evaluating the IT vendor exist because the vendor maintains incomplete raw data and because of the difficulty with auditing service level requirements.

Outsourcing

15. How do you decide to contract for additional staff? How do you decide to contract out entire functions?

Response: In the mid-1990s, we had a Mayor who was a strong advocate for outsourcing to save dollars. At the same time, our IT department was very complacent and could not keep up with the move to platforms other than mainframe. Other departments within our government were spending large sums of money on independent efforts to move to desktop environments and off-the-shelf software packages. Administrators decided that a centralized effort, with outsourcing for most IT functions, would be extremely cost-effective. The estimated savings over seven years (the length of the initial outsourcing contract) was projected at $8 million.

16. What degree of interaction occurs between IT staff and contractors?

Response: Daily status and update meetings as well as issue meetings.

17. What benefits/problems occurred as a result of outsourcing?

Response: Benefits- the ability to use stronger expertise resources. The problems have been in converting from heavy department individualized support to shared pool support that requires wait times. When equipment is ordered, it must be scheduled into a bigger work plan, and when applications development is needed, it must be part of the Annual Work Plan.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: All outsourced IT activities were once provided in house. The whole outsourcing project has made the City/County more efficient. Financial impact as well as business process re-engineering is used when projects are planned, rather than just doing them because there were funds to pay for the project.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response:

- Internet and e-commerce will grow much bigger, and we now have an award winning web site with many companies able to transact business over our Internet daily.
- The continued support of mainframe-based applications that are cumbersome and not easily queried will diminish and our current mainframe environment may end up being a storage and backup medium only.
- We are also making use of more interactive voice response applications to query mainframe and respond to public needs via the telephone.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: Contracting IT functions is very effective if monitoring and contract compliance remains in-house. There also must be provisions in the contract for penalties when service levels are not consistently met. Strategic planning and customer liaisons should always remain in-house because a vendor cannot understand government's business needs. The contractual relationship should be crafted on the contractor's core competencies, and not the entire operation.

21. When integrating/implementing newer IT functions into your IT organization, what issues arose?

Response: Funding, ongoing support costs, efficiencies and ease of training are usually the prime concerns. We have not had a property-tax increase in over eight years, and it is difficult to work with costs that keep skyrocketing without new revenue sources.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Prince George's County chapter. Several charts and tables are included.

- *Indianapolis-Marion County Profile* *181*

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget.

- *Indianapolis-Marion County Government Organization Chart* *182*

  Shows the current organization by functional area.

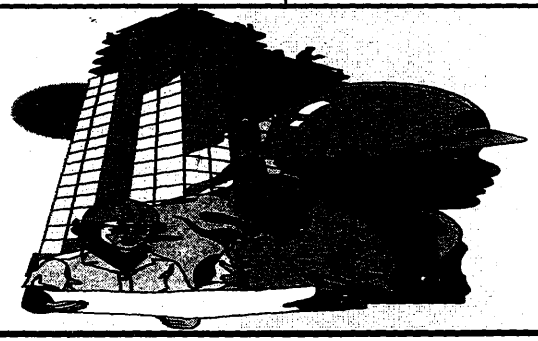
- *Indianapolis-Marion County Government IT Organization Profile* *183*

  Contains information about the County's IT organizational structure, total IT positions, and centralized IT staff and operating budget. This profile also contains a list of IT functions performed throughout the County.

- *Organization Chart of the Information Services Agency* *184*

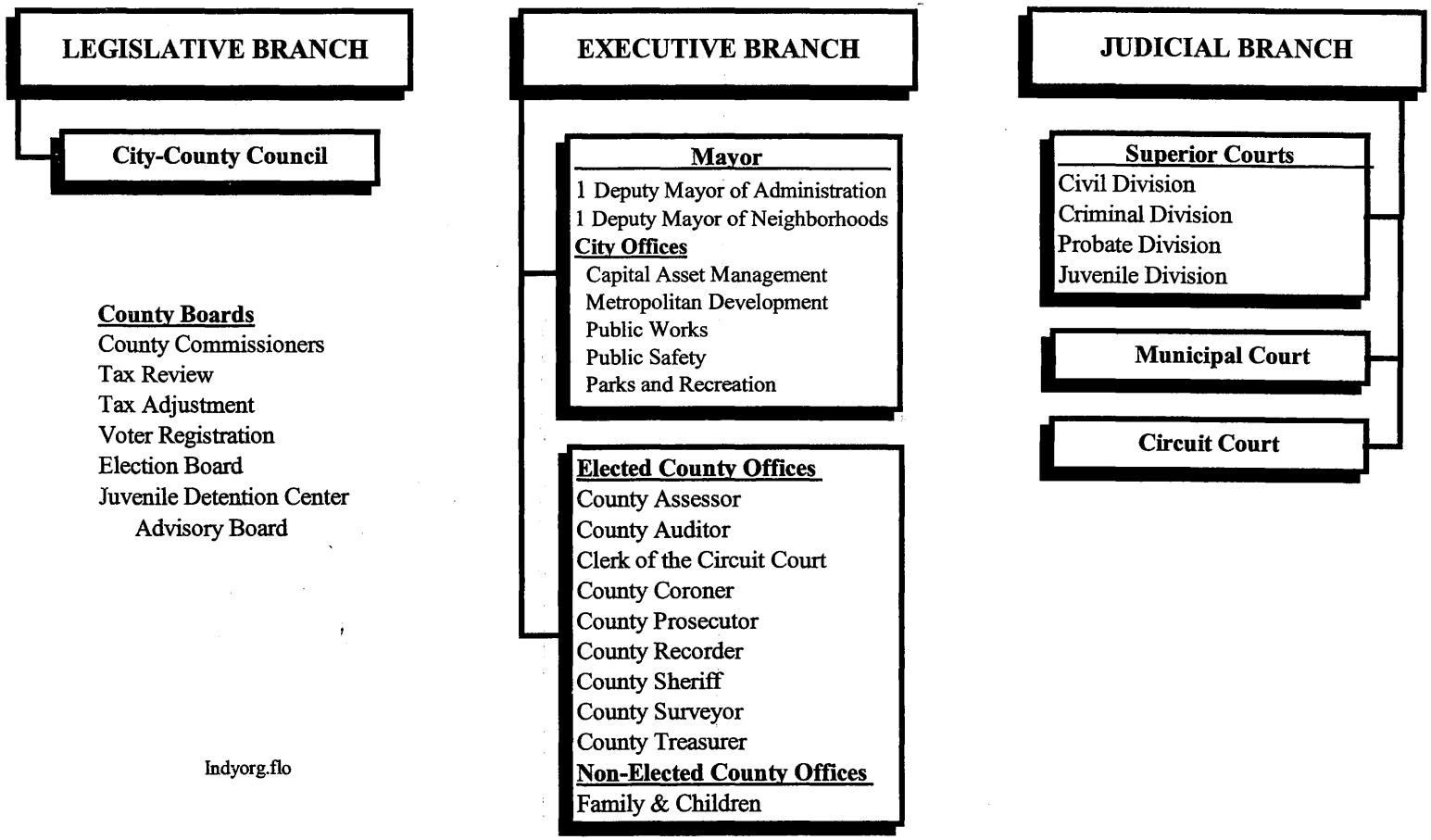
  Shows the organization of IT staff in the divisions and offices of the central IT department.

Profile of Indianapolis-Marion County, Indiana

Estimated Population	**813,405 (1998)**	**Largest Employers**	**Eli Lilly & Company Conseco Clarion Health Bank One Indianapolis Allison Transmission United Airlines Federal Express Navistar Intern. Trans.**
County Area (Square Miles)	**402**		
County Income (Median Household)	**$33,695 (1995)**	**City-County Operating Budget***	**$710.41 million (FY 2000)**
		**City-County Employees Supported by the Information Services Agency (ISA)**	**6,326 Positions (FY 2000)**
Form of Government: Elected City-County Council / Elected Mayor			
Central Government Functions	**Judiciary, Environmental Protection, Flood Control, Parks and Recreation, Transportation, Hospital, Public Safety**		

* Includes budgets for the Legislative Branch and all City-County departments and offices over which the City-County Council has appropriation authority.

Organization Chart of Indianapolis-Marion County, Indiana Government



Indianapolis-Marion County, Indiana
IT Organization Profile FY 2000

IT Organization Structure	**Centralized (99+percent)**
Total IT Positions	**16.0 FTE (plus about 100 centralized vendor staff)**
IT Position Groups	**Centralized 14.0 FTE / Decentralized 2.0 FTE (plus about 100 centralized vendor staff)**
Central IT Department Operating Budget	**$ 24,288,424 (FY 2000)**

IT Department Functions

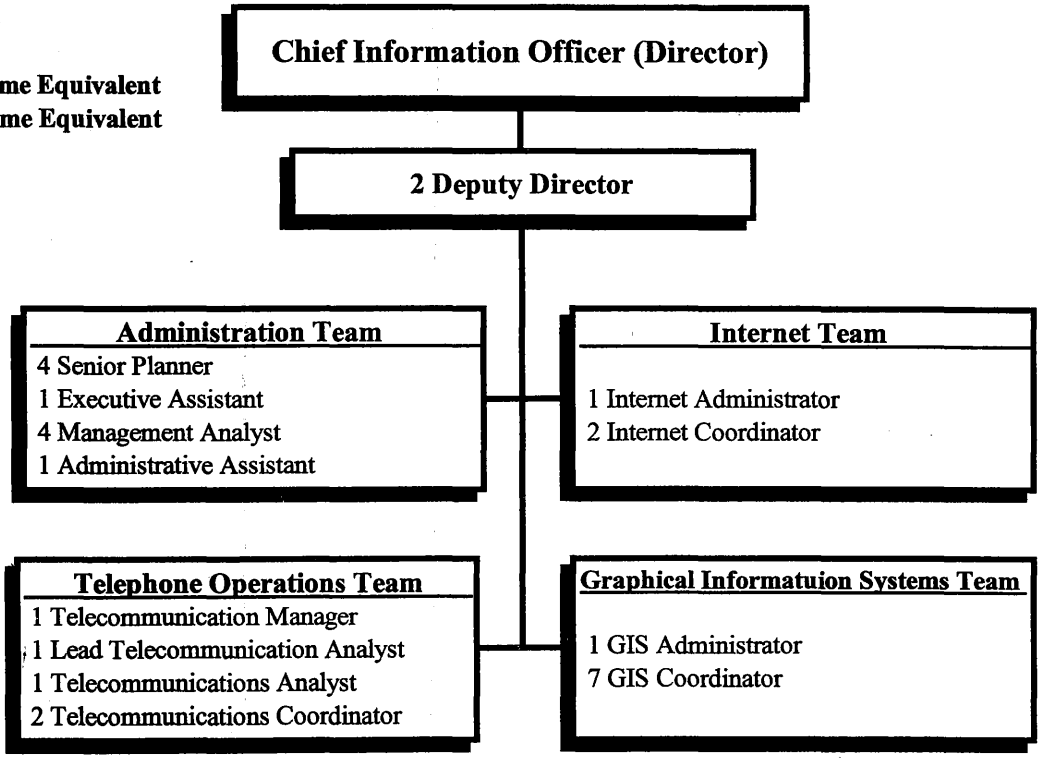
- Internet
- Intranet
- IT Consulting
- Radio Operations
- Radio Maintenance
- IT Strategic Planning
- Telephone Operations
- Systems Development
- Systems Maintenance
- Telephone Maintenance
- Desktop Computer Support
- Geographic Information Systems

Departments Having Five or More IT Positions

None

IT Organization and Staffing in the Indianapolis-Marion County Information Services Agency - FY 2000

Total Staff: 29.0 Full-Time Equivalent
IT Staff: 14.0 Full-Time Equivalent



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Chapter XI

OAKLAND COUNTY, MICHIGAN

A. BACKGROUND 185

B. IT ORGANIZATION 185

1. Centralized IT Staff 186

2. Decentralized IT Staff 187

C. IT FUNCTIONS 187

D. QUESTIONS AND ADDITIONAL INFORMATION 187

E. SUMMARY CHARTS AND TABLES 192

XI OAKLAND COUNTY, MICHIGAN

A. Background

Oakland County has an approximate population of 1.2 million residents. The County is in close proximity to the City of Detroit as well as the U.S.-Canadian border, and encompasses approximately 900 square miles of land area.

Oakland County was officially organized on January 12, 1819 under the Optional Unified form of Government. Currently a 25-member Board of Commissioners and an elected County Executive govern the County. One Commissioner is elected from each of the 25 districts in the County to serve a two-year term in office. There are no term limits for Board members, but the County Executive may only serve two terms in office.

Median household income was $57,000 for County residents in 1997. Some of the largest employers in the County include General Motors, Daimler Chrysler Corp., William Beaumont Hospital, EDS Corp., Ameritech Publications, Ford Motor Co., Blue Cross & Blue Shield, Modern Engineering Services Co., and St. Joseph Mercy Hospital.

Oakland County's central government services encompass the following: circuit courts, planning and development, public health, public safety, international airport, veteran's services, drain commission, waste disposal, environmental protection, and general government services. For FY 2000, the County appropriated approximately $443.0 million to programs and initiatives and authorized 4,500 full-time employee positions.

An organization chart of the Oakland County Government is located at page 194.

B. IT Organization

Oakland County currently maintains a completely centralized IT organizational structure with 100% of the County's total authorized IT positions located in the Information Technology Department (ITD). There are no IT positions in the other departments and offices throughout the County. ITD is currently authorized 161 full-time positions.

ITD contracts out all or part of the following IT functions: IT consulting, systems development, systems maintenance, desktop computer support, geographic information systems, internet, intranet, e-commerce, local area network, wide area network, server administration, help desk, systems programming, telephone operations, and telephone maintenance.

ITD hires temporary employees or enters contractual relationships with private sector IT professionals to augment staff and to add technical expertise. Currently ITD uses contract staff for most of its IT functions, but relies most heavily on contract staff to perform IT consulting, systems development, and systems maintenance functions.

1. Centralized IT Staff

The FY 2000 operating budget for ITD was $20.6 million, which included funding for 161 full-time positions (IT positions = 142 full-time). Of the total 161 positions, 12 staff provide administrative duties, 39 staff provide systems development and support, 36 staff perform data center operations, 29 staff provide technical systems and networking services, 15 staff provide GIS and data warehouse related services, and 30 staff provide public safety related IT services. At the end of May 2000, ITD had 13 vacant full-time IT positions, yielding a vacancy rate of 9.2% for the Department.

In addition to an operating budget, ITD manages three special funds. The County's radio operations/maintenance and telephone operations/maintenance functions are managed through the **Radio Fund** and the **Telephone Communications Fund**, respectively. The County's public safety database system is managed and maintained through the **CLEMIS Fund** (Courts and Law Enforcement Management Information System). For FY 2000, the County appropriated $1.6 million for the Radio Fund, $4.4 million for the Telephone Communications Fund, and $1.8 million for the CLEMIS Fund

Below is a list of ITD's organizational units on January 1, 2000.

Administration (12 full-time positions)
Systems Development and Support (39 full-time positions)
Data Center Operations (36 full-time positions)
Technical Systems and Networking (29 full-time positions)
Digital Information Service Center (15 full-time positions)
CLEMIS and Public Safety (30 full-time positions)

- *Administration* staff provide administrative support to the director, managers, IT staff, and outside customers. This unit is responsible for strategic planning of projects, in house software training, managing a software help-desk, and solving any personnel, budget, and IT security issues.
- *Systems Development and Support* staff design, implement, and maintain information systems for County departments, other government agencies and the private sector. This division is on call 24 hours.
- *Data Center Operations* staff maintain the County mainframe and all other computer systems on an around the clock schedule. This division also operates and maintains the County's data, voice, telephone, video, and wireless systems.
- The *Technical Systems and Networking* staff supports the computer hardware, operating systems, and wide area and local area networks (WAN's and LAN's) as well as supports and maintains all data base applications. This division is on call 24 hours.
- The *Digital Information Services Center* staff provides technical expertise, support, and assistance to County departments and the general public to make them more effective IT users.

- *CLEMIS and Public Safety* staff offer technical support to police and fire agencies who use E-911 data, mobile data, and voice systems. This division supports four counties and is on call 24 hours.

An organization chart of ITD is located at page **Error! Bookmark not defined.**.

2. Decentralized IT Staff

Oakland County does not have decentralized IT staff. All of the County's IT positions are located in the central IT department.

C. IT Functions

Oakland County's IT staff perform a variety of IT functions. The table below shows the County's major IT functions, along with ITD's estimate of the amount of centralized, decentralized, contracted staff, and outsourced activities

Function	Percent Function is Outsourced	Percent Function is Performed by Centralized Employees	Percent Function is Performed by Decentralized Employees	Workyears Centralized Contracted Staff	Workyears Decentralized Contracted Staff
IT Consulting	30	70	0	25 to 30	0
Systems Development	30	70	0		0
Systems Maintenance	30	70	0		0
Desktop Computer Support	100	0	0	Varies	0
Geographic Info. System (GIS)	20	80	0	1 to 3	0
Internet	40	60	0	2	0
Intranet	40	60	0	2	0
E-Commerce	50	50	0	1	0
Local Area Network (LAN)	20	80	0	3	0
Wide Area Network (WAN)	80	20	0	Varies	0
Server Administration	10	90	0	1	0
Help Desk	50	50	0	1	0
Computer Operations	0	100	0	0	0
Systems Programming	10	90	0	2	0
Telephone Operations	25	75	0	3	0
Telephone Maintenance	75	25	0	8	0
Radio Operations	0	0	0	0	0
Radio Maintenance	0	0	0	0	0

D. Questions and Additional Information

OLO asked key administrators in ITD several questions covering the following five areas: IT organization, staffing, evaluation of IT services, outsourcing, and IT functions. **This section contains the answers the IT department provided to OLO.**

General/Organization

1. ***Who are the main users of your government's IT services?***

Response: City, Township, Village, and County departments.

2. ***How long have you been organized as you are currently, and are there any plans to change the way you are organized?***

Response: We are constantly changing as technology changes.

3. ***Would any organizational changes improve the quality of your IT services, and what are they?***

Response: Not at this time.

4. ***What degree of interaction occurs between central and decentralized IT staff?***

Response: Not applicable.

5. ***What IT initiatives is the county currently working on?***

Response:

Some of our major FY 2000 initiatives.

- Desktop computer modernization.
- Enterprise network management.
- Replacement of the Public Safety system - we are moving to replace a 25-year old mainframe system that served 44 agencies with a client/server-based system. We are now up to 65 agencies and growing. It is, to the best of our knowledge, the largest single criminal justice database in the country.
- A new Radio System is also in the works, with plans for cross-agency usage for mutual aid.
- Fiber-Net - we are installing an $8.1 million network that is connecting all CVT's (City, Village, Township) to our central site. It will be used for data, voice and video. There are approximately 140 locations connecting.
- Fiber Optic infrastructure upgrade - Out to bid
- Intranet development
- Client server applications
- Project management system
- Document management – in progress, but not yet for all departments.

Some of our completed and future initiatives include the following.

- Published IT standards - done
- Geographic Information System (GIS) – complete, not only for the County, but also for all CVT's (City, Village, Township). We use a common base for all of them. It is a cooperative effort in that we supply the CVT's with the base data and they maintain their portions as changes occur. In conjunction, we are about 95% through a complete remonumentation of county. Many applications in the future will be driven off GIS data.
- Web site – implemented and continuing with maintenance and refinement. (co.oakland.mi.us)
- Internet Development – implemented; we continue to maintain and refine.
- Internet/E-mail - we have Internet and are using a separate E-mail package. We will be going to Outlook.
- E-commerce – implemented and continue to refine – (see our site)
- 800mhz – we have a trunked system that has been in place for about 9 years.
- Property assessment– implemented a heavy duty system, see our web site
- Permits system – a future project.

Staffing

6. ***Any formulas for staffing of IT functions, for example- one programmer to every thirty computer users? Do you have a manager to worker ratio you strive for in any IT operations?***

Response: We do not have a formula for staffing. We base our staffing decisions on the availability of resources determined by our leadership group meetings.

7. ***Do any of your IT functions face staffing issues and if so what are they? What do you consider essential to developing a staff capable of delivering adequate IT services to your government?***

Response: An essential element to developing a capable staff is compensation, benefits, and training.

8. ***What IT functions seem more appropriate to centralize versus decentralize, and which functions seem more appropriate to decentralize?***

Response: It seems appropriate to centralize technical services, networking, computer operations, and database administration. It seems appropriate to decentralize systems development.

9. ***Any IT staff not represented by the organization charts of the IT department or of other departments (any staff that perform IT functions but have non-IT related job titles and who do not get counted as IT employees)?***

Response: Staff not represented by the organization chart of ITD are computer liaisons.

Evaluation

10. ***How well do you feel your IT organization serves its purpose? Any IT functions currently not running as well as they should be (which ones and why)?***

Response: Our IT organization serves its purpose very well.

11. ***How do you measure whether IT functions are carried out effectively?***

Response: Through leadership group meetings and published performance statistics.

12. ***What complicates an effective evaluation of your IT services? Are some IT services easier to evaluate than others - which ones and why?***

Response: No response.

13. ***Have you or any other government representative ever asked any County employees about their satisfaction with IT services- if so what did they say?***

Response: No response.

14. ***What obstacles exist for evaluating the efficiency of your IT department? What obstacles exist for evaluating IT service providers (contractor)?***

Response: None

Outsourcing

15. ***How do you decide to contract for additional staff? How do you decide to contract out entire functions?***

Response: We decide to contract for additional staff when we are faced with temporary peaks in workloads.

16. ***What degree of interaction occurs between IT staff and contractors?***

Response: A very high degree of interaction occurs between IT staff and contractors.

17. ***What benefits/problems occurred as a result of outsourcing?***

Response: Benefits from outsourcing include increasing the department's productivity and it enables us to off-load some of our more remedial tasks.

18. Outsourcing any IT activities you once provided with an in house staff? Did outsourcing such IT activities improve the effectiveness or efficiency of your IT organization compared to when those activities were performed in house?

Response: No response.

IT Functions

19. What IT functions do you feel will grow in importance and which functions will become less important in the next five to ten years?

Response: Technical and Networking functions will grow in importance in the next five to ten years.

20. Do you feel some IT functions should be contracted out and some should remain in house- please explain?

Response: No response.

21. When integrating/implementing newer IT functions into your IT organization, what issues arose?

Response: No response.

E. Summary Charts and Tables

This section contains charts and tables summarizing some of the narrative information in the Oakland County chapter. Several charts and tables are included.

- *Oakland County Profile* *193*

  Contains information about the County's population, land area, median household income, largest employers, government functions, and operating budget

- *Oakland County Government Organization Chart* *194*

  Shows the current organization by functional area.

- *Oakland County Government IT Organization Profile* *195*

  Contains information about the County's IT organizational structure, total IT positions, centralized IT staff and operating budget. This profile also contains a list of IT functions performed throughout the County, and a list of departments in the County having five or more IT positions.

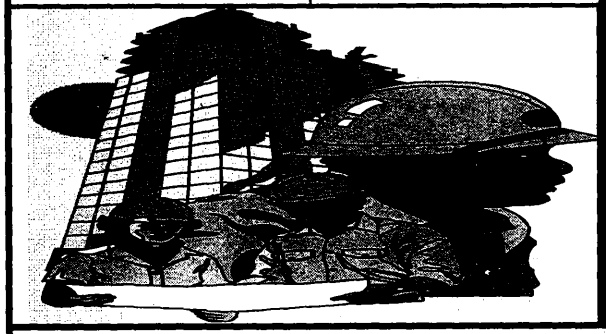
- *Organization Chart of the Information Technology Department* *196*

  Shows the overall organization of IT divisions and offices of the department.

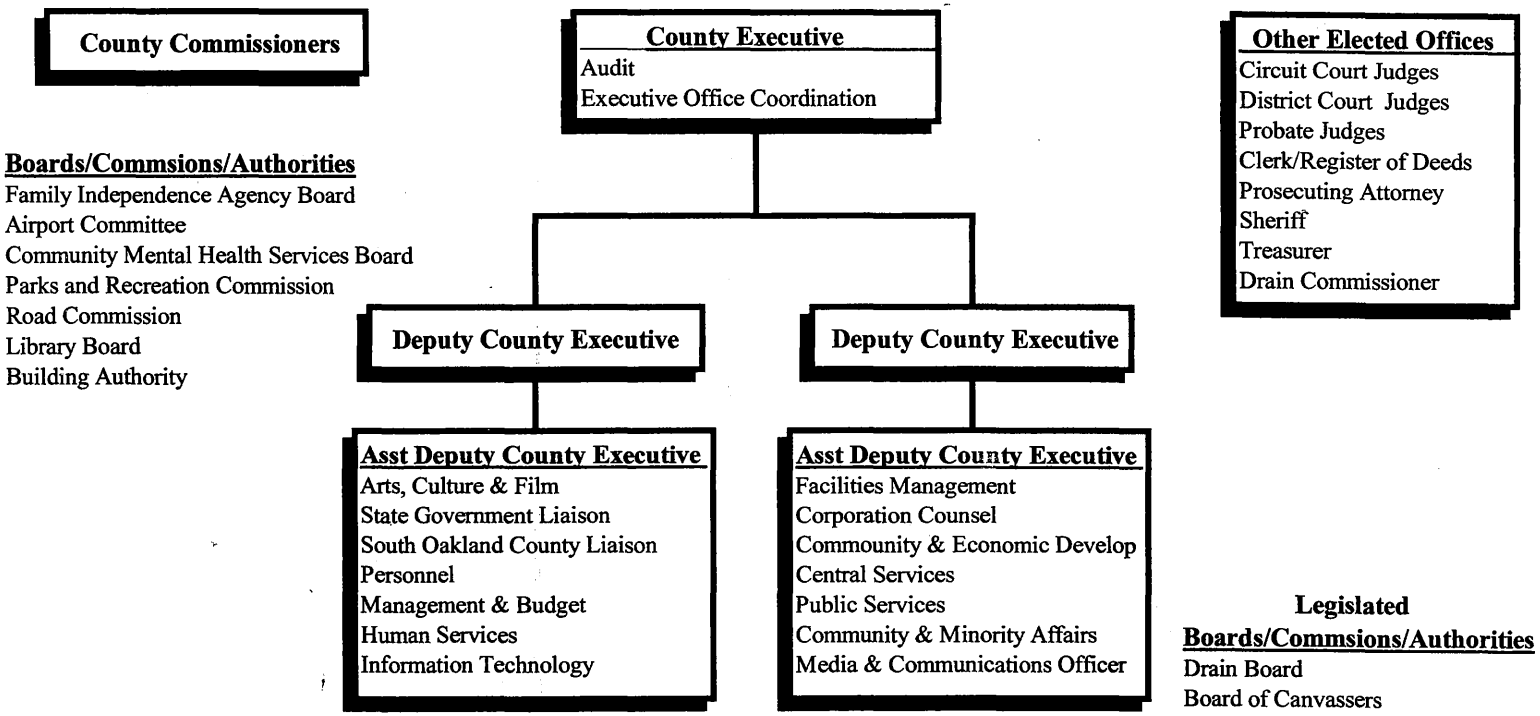
- *List of Authorized Positions in the Information Technology Department* 197

  Shows FY 2000 authorized ITD positions and their organizational groupings within the department.

Profile of Oakland County, Michigan

Population	**1,200,000 (FY 2000)**	**Largest Employers**	**General Motors Corp. Daimler Chrysler Corp. Beaumont Hospital Ford Motors EDS Ameritech Publications Blue Cross & Blue Shield Modern Engineering**
County Area (Square Miles)	**900**		
County Income (Median Household)	**$57K (1997)**	**County Operating Budget**	**$443.0 million (FY 2000)**
		**County Employees Supported by IT Organization**	**4,500 Positions (FY 2000)**
Form of Government: Elected Board of Supervisors / Elected County Executive			
Central Government Services	**Circuit Court, Planning and Development, Public Health, Public Safety, International Airport, Veteran's Services, Drain Commission, Waste Disposal, Environmental Protection, General Government**		

Organization Chart of Oakland County, Michigan Government



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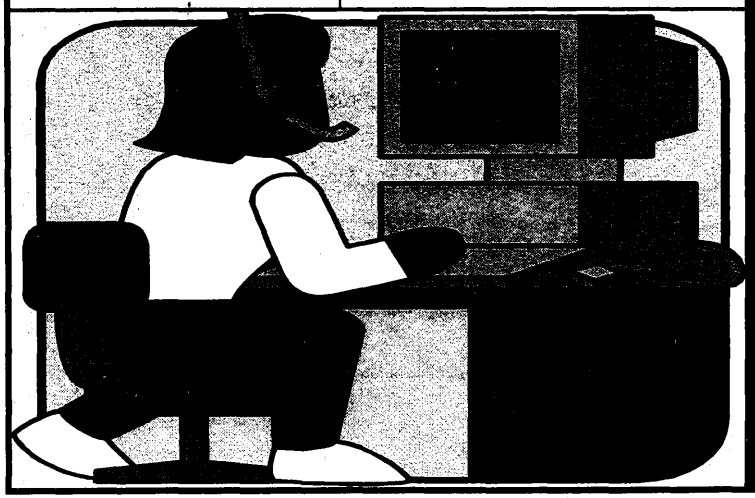
Legislated
Boards/Commsions/Authorities
Drain Board
Board of Canvassers
Plat Board
Employees Retirement Commission
Library Board
Election Commission
Consealed Weapons Licensing Board
Building Authority

Oakland County, Michigan
IT Organization Profile FY 2000

IT Organization Structure	**Centralized (100% centralized)**
Total IT Positions	**142 Full Time**
IT Position Groups	**Centralized: 142 FT; Decentralized: 0 FT**
Central IT Department Operating Budget	**$20,630,661**



IT Department Functions

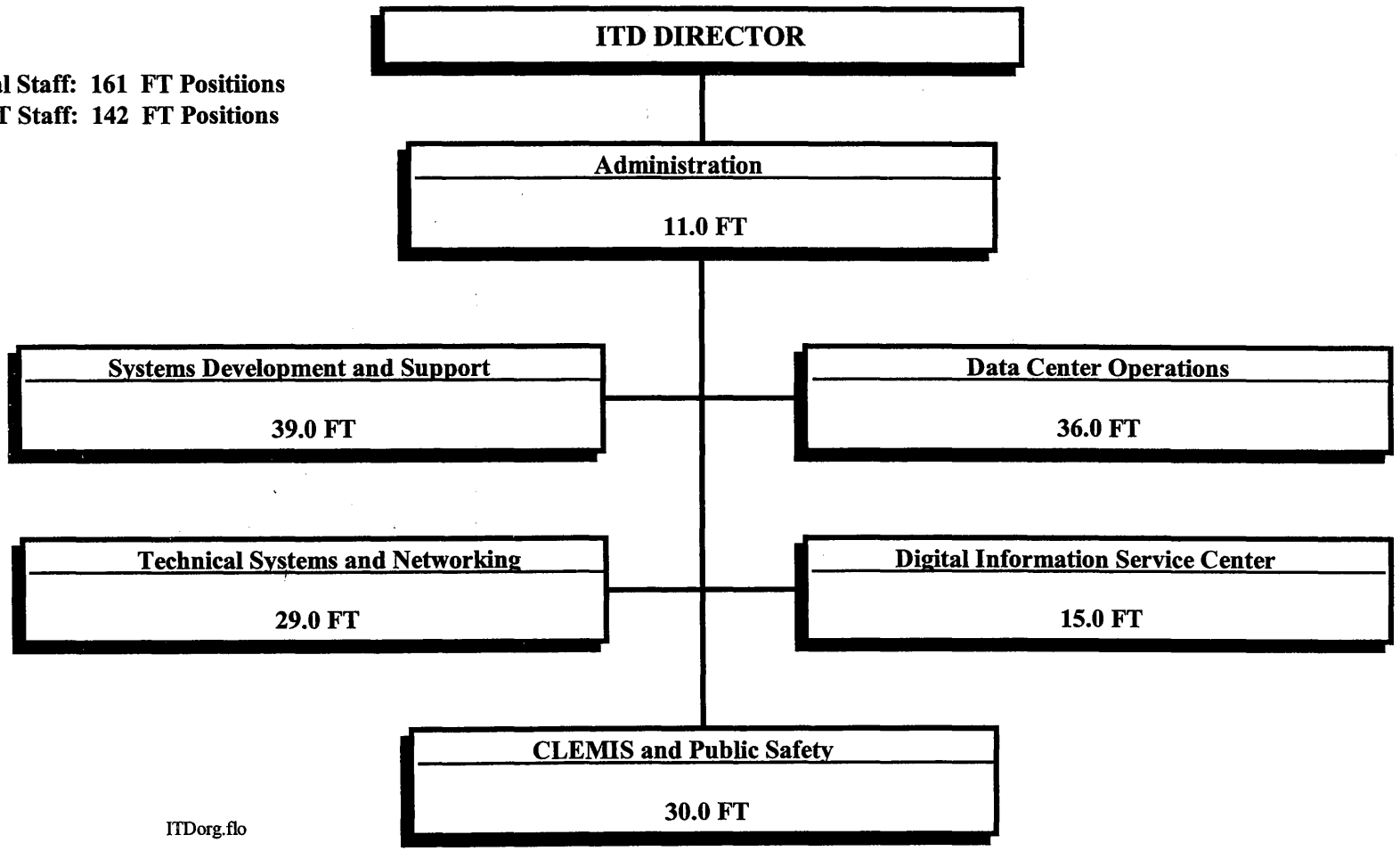
- IT Consulting
- Systems Development
- Systems Maintenance
- Geographic Information Systems
- Internet
- Intranet
- E-Commerce
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Server Administration
- Help Desk
- Computer Operations
- Systems Programming
- Telephone Operations
- Telephone Maintenance

Departments Having Five or More IT Positions

None

IT Organization and Staffing in the Oakland County Information Technology Department –FY 2000

Total Staff: 161 FT Positiions
IT Staff: 142 FT Positions



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A position listing within organizational unit begins on next page.

Oakland County Information Technology Department Authorized Positions - FY 2000

Administration

Director's Office

1 Director
1 Data Security Specialist
1 Secretary III
Total Full-Time Positions = 3.0

Project Office Software Training and Admin. Support

1 Project Office and Software Training Supervisor
1 Applications Analyst Programmer III
Total Full-Time Positions = 2.0

Administrative Services

1 IT Administration Services Supervisor
2 Procurement Technician
1 Typist II
Total Full-Time Positions = 4.0

Training and Support

1 User Support Specialist III
1 User Support Specialist II
1 User Support Specialist I
Total Full-Time Positions = 3.0

Total Full-Time Positions = 12.0

Systems Development and Support Division

Administration

1 Chief of Systems Development
1 Manager of Systems Development and Support
1 IT Training Specialist
1 Secretary II
Total Full-Time Positions = 4.0

Systems Development and Support Division (Continued)

Administrative Systems

1 IT Supervisor II
2 Applications Analyst/Programmer III
3 Applications Analyst/Programmer II
1 Applications Analyst/Programmer I
Total Full-Time Positions = 7.0

Special Projects

1 IT Supervisor II
1 Applications Analyst/Programmer II
2 Applications Analyst/Programmer I
Total Full-Time Positions = 4.0

Land Systems

1 IT Supervisor II
2 Applications/Analyst Programmer III
2 User Support Specialist II
2 Applications Analyst/Programmer II
Total Full-Time Positions = 7.0

Health Systems

1 IT Supervisor II
1 Applications Analyst/Programmer III
4 Applications Analyst/Programmer II
1 Applications Analyst/Programmer I
Total Full-Time Positions = 7.0

Courts Team

1 IT Supervisor II
2 Applications Analyst/Programmer III
5 Applications Analyst/Programmer II
1 User Support Specialist II
1 Applications Analyst/Program Trainee
Total Full-Time Positions = 10.0

Total Full-Time Positions = 39.0

Data Center Operations Division

Administration

1 Manager of Data Center Operations
1 Chief of Telephone Communications
2 Receptionist/Clerk
Total Full-Time Positions = 4.0

Help Desk

1 Customer Service Technician II
Total Full-Time Positions = 1.0

Production Services

1 Production Services Supervisor
1 Production Scheduler
2 Production Control Analyst III
2 Production Control Analyst II
1 Clerk/Delivery Personnel
1 Student
Total Full-Time Positions = 8.0

Communications

1 Installation Coordinator
1 Customer Service Technician II
2 Telephone Communications Technician
Total Full-Time Positions = 4.0

Data Entry

1 Data Entry Operator III
1 Data Entry Operator II
Total Full-Time Positions = 2.0

Computer Operations

1 Data Processing Equipment Operator Supervisor
2 Data Processing Equipment Operator III
4 Data Processing Equipment Operator II
Total Full-Time Positions = 7.0

Data Center Operations Division (Continued)

Customer Services

1 Customer Service Supervisor
1 Customer Service Technician III
3 Customer Service Technician II
2 Customer Service Technician I
2 Customer Service Trainee
1 Student Engineer
Total Full-Time Positions = 10.0

Total Full-Time Positions = 36.0

Technical Systems and Networking Division

Administration

1 Manager of Technical Systems and Networking
1 IT Training Specialist
Total Full-Time Positions = 2.0

Technical Services

1 Chief of Technical Services
6 Systems Software Specialist
3 Network Software Specialist
3 Network Systems Analyst II
Total Full-Time Positions = 13.0

Network Technology

1 Distributed Computing Technology Supervisor
1 Applications Analyst/Programmer I
1 Network Systems Analyst II
1 Student Engineer
1 Student
Total Full-Time Positions = 5.0

Database Administration

1 Database Administration Supervisor
6 Database Administrator
Total Full-Time Positions = 7.0

Technical Systems and Networking Division (Continued)

Telephone Services

1 Telecommunications Network Supervisor
1 Network Systems Analyst I
Total Full-Time Positions = 2.0
Total Full-Time Positions = 29.0

Digital Information Systems Center

Administration

1 Manager of Digital Information Systems Center
Total Full-Time Positions = 1.0

GIS Utility

1 IT Supervisor I
1 Applications Analyst/Programmer II
1 Network Systems Analyst I
2 User Support Specialist II
3 GIS Enterprise Data Technician
1 Student Engineer
Total Full-Time Positions = 9.0

Data Warehouse

1 IT Supervisor I
2 Applications Analyst/Programmer III
2 Applications Analyst/Programmer II
Total Full-Time Positions = 5.0
Total Full-Time Positions = 15.0

CLEMIS and Public Safety Division

Administration

1 CLEMIS and Public Safety Manager
1 Project Support Specialist
2 Typist II
Total Full-Time Positions = 4.0

Emergency Operations

1 Emergency Operations Administrator
Total Full-Time Positions = 1.0

CLEMIS and Public Safety Division (Continued)

Product Support

1 IT Supervisor I
1 Applications Analyst/Programmer III
4 Applications Analyst/Programmer II
4 User Support Specialist III
1 User Support Specialist II
1 Applications Analyst/Programmer I
Total Full-Time Positions = 12.0

Emergency Management & 911

1 Emergency Management Chief
1 Emergency Management Specialist
1 Emergency Management Coordinator
1 Technical Assistant
1 Disaster Control Director
Total Full-Time Positions = 5.0

Radio Communications

1 Radio Communications Supervisor
1 Senior Radio Communications Technician
4 Radio Communications Technician
1 Radio Communications Clerk
1 Typist
Total Full-Time Positions = 5.0
Total Full-Time Positions = 30.0

Total Positions = 161.0 Full-Time
IT Positions = 142.0 Full-Time

Department of Public Works and Transportation Databases

Director's Office:

- Adopt-A-Road
- Correspondence Log

Engineering Services Division:

- ADA – curb ramps (where they are and where they need to be installed)
- Archived Files
- Bridge Inventory
- Budget preparation and monitoring
- Community Outreach Events
- Construction cost and pricing
- Correspondence
- Customer Feedback Survey responses
- Design Cost
- Drainage Assistance Requests
- New Sidewalk Requests
- Personnel (includes training and awards)

Facilities and Services Division:

- ARCHIBUS – FM (a Facility Management enterprise database that includes leasing and space & interior modules)
- FASER (Energy Management database)
- QBIC (Maintenance database)

Fleet Management Services Division:

- FASTER (Fleet Maintenance Management System)

Highway Services Division:

- Central Inventory
- Cost Control History
- Crew Day Cards (Personnel Management & Cost Tracking system)
- Employee database
- Leafing Program
- Manpower Management System
- Mowing Schedule with Routes
- Road Inventory
- Plow Routes
- Service Requests
- Salt & Emergency Routes
- Tree Maintenance
- Trigon (records for insurance claims against the County)
- Uniform Distribution
- Weather Event History (chronological record of DPWT activities)

Solid Waste Services:

Citizen Refunds of Solid Waste Fees
Correction of Solid Waste Codes
Monthly Household Count (Report of New Properties)
OSCAR (Customer Service & Contractor Oversight tracking system)
Transfer Station Scale House (records services used for future billings)
Truck Licensing

Traffic and Parking Services:

Advanced Transportation Management System (ATMS)
Central Inventory
Correspondence Control
Parking Permit Sales
Parking Ticket Issuance
Streetlight Repairs
Traffic Studies
Vehicle Accidents
Work Orders

Transit Services:

ADA - Tracks taxi trips provided to ADA patients (will no longer be handled by the County as of July 1, 2000).
Bus Operator Personnel System
Bus Service Interruptions
Bus Stop Inventory (includes County and WMATA bus stops)
Call N Ride - Tracks sales of Call N Ride coupons, and clients.
Complaint Tracking of Bus Services
Fare Media - Tracks fare media by mail sales and clients
Medicaid - Tracks taxi trips provided to Medicaid patients (funded by State grant)
Taxi Licensing System