CHAPTER 14 – INFORMATION TECHNOLOGY

The Department of Information Technology (DIT) plans, directs, and coordinates implementation of the city's information technology program. It sets and enforces city-wide technology and data security standards and policies. DIT also provides technical expertise in computer and communications technology.

Its mission is to provide information technology products, services, guidance, and direction to city agencies so that the public is served in a cost-effective and efficient manner; as well as maintaining, securing, and protecting city communications networks that support public safety, and providing leading technological solutions for the city's business needs. This mission is consistent with the Revised Charter of Honolulu mandate that DIT provide technical expertise in data processing to city government.

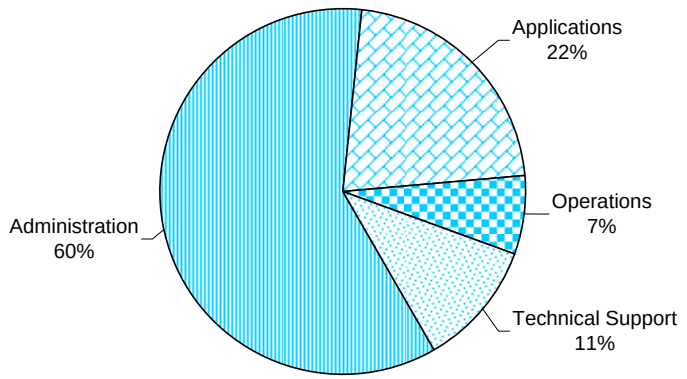
DIT maintains and manages the city computer network and data processing operations 24-hours per day, 7-days a week. It also provides programming support to the city and runs systems that support driver licensing and motor vehicle systems for the entire state and other counties.

In FY 2011, administration expenditures increased 7% from FY 2007 ($17.0 million) to FY 2011 ($18.2 million). According to the department, the increase was due to hardware upgrade costs, and software and radio/microwave systems maintenance. The 22% increase in revenues during the same time period was attributed to new easement grant/lease contracts and state and federal reimbursements.

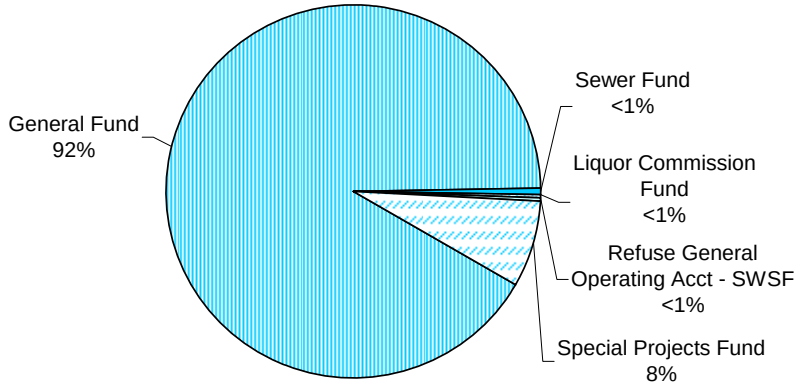
In addition to Administration, DIT work efforts are carried out through four primary divisions: Operations, Applications (GIS/Land Management, Enterprise Resource Planning, and Customer Service Representative), Technical Support, and Radio and Network Infrastructure.

During FY 2011, DIT coordinated a system disaster recovery exercise to prepare for the APEC conference in FY 2012. The exercise tested DIT's ability to provide continuity of operations for key computer service from the Fasi Municipal Building data center in Honolulu. According to the department, this exercise confirmed DIT's ability to maintain critical services in preparation for the planned APEC conference.

Where Does an Information Technology's Dollar Go? FY 2011



What Are the Sources of Information Technology's Funds? FY 2011



Source: Department of Budget and Fiscal Services

	Total Expenditures ($ million)	Administration ($ million)	Revenues ($ million)	Total Authorized FTE	Total Vacant FTE	Cost Per FTE
FY 2007	$17.0	$9.8	$2.3	150.0	26.0	$113,003
FY 2008	$18.8	$11.1	$2.6	150.0	23.5	$125,119
FY 2009	$20.1	$12.1	$3.7	153.0	25.0	$131,361
FY 2010	$18.4	$10.5	$3.0	153.0	25.5	$120,553
FY 2011	$18.2	$10.9	$2.9	152.0	27.5	$119,535
Change over last 5 years	7%	11%	22%	1%	6%	6%

Sources: Executive Operating Program and Budgets (FY 2009-2012) and Department of Budget and Fiscal Services

Operations

The Operations division plans, administers, coordinates, and executes the central and remote computer system operations of the city's computer facilities located islandwide. This is a 24-hour per-day, 365-days per-year operation.

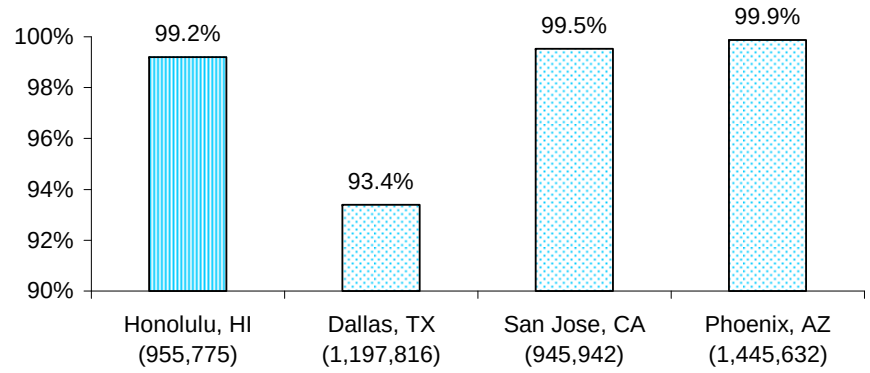
Operations also performs data entry services, develops and maintains document controls to assure accuracy of data processed, and develops computer schedules of production data processing tasks. Additionally, the division develops and maintains disaster recovery planning, manages a central help desk call center, and controls and maintains the computer equipment and network at the city's data centers.

Over the past 5 years, operation program expenditures declined 22%, from $1.6 million in FY 2007 to $1.2 million in FY 2011. According to the department, the decrease in expenditures is due to salary expense changes as workers resign or retire. The drop in 2011 was due to involuntary and temporary placement of an employee on non-pay and non-duty status.

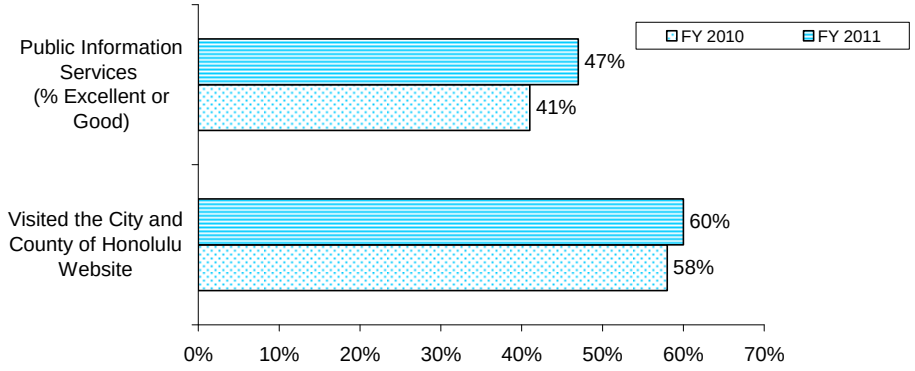
The ratio of help desk calls resolved at the first level increased 18% from FY 2007 (71%) to FY 2011 (89%). The department explained that the increase in first-level call resolutions is attributed to improved staff expertise, developed by system experience, conducting trend analysis, and collaboration among staff. During the same five-year time period, the number of changes implemented declined 32%, which the department attributed to changes in the management process that documents change approvals, user acceptance, and code promotion authorizations.

The 2011 Citizen Survey reported that 60% of respondents visited the City and County of Honolulu's website. This was an increase of 2% from FY 2010. The survey also found that 47% of respondents rated public information services as excellent or good, an increase of 6% from FY 2010 when 41% of respondents rated the category as excellent or good.

National Comparison: Production Online Systems (24 hours)



Percent of Residents Visiting the City and County of Honolulu Website and Ratings for Public Information Services



Sources: Various city websites and National Citizen Survey ™ 2011 (Honolulu)

	Operations	Production Online Systems (Prime Shift)	Production Online Systems (24 hours)	Changes Implemented[1]	% Help Desk Calls Resolved at First Level
FY 2007	$1.6	99.9%	99.5%	1,285	71%
FY 2008	$1.7	99.9%	99.5%	891	73%
FY 2009	$1.8	99.9%	99.5%	761	92%
FY 2010	$1.7	99.9%	99.4%	691	86%
FY 2011	$1.2	99.9%	99.2%	875	89%
Change over last 5 years	-22%	0%	-0.3%	-32%	18%

	Citizen Survey	
	Visited the City and County of Honolulu Website	Public Information Services (% Excellent or Good)
FY 2007	-	-
FY 2008	-	-
FY 2009	-	-
FY 2010	58%	41%
FY 2011	60%	47%
Change over last year	2%	6%

Sources: Executive Operating Program and Budgets (FY 2009-2012), Department of Information Technology, and National Citizen Survey ™ 2011 (Honolulu)

[1] Changes Implemented is the process of documenting change approvals, user acceptance, or authorizations for hardware and software promotion.

Applications – GIS Land Management, Enterprise Resource Planning, and Customer Service Representative

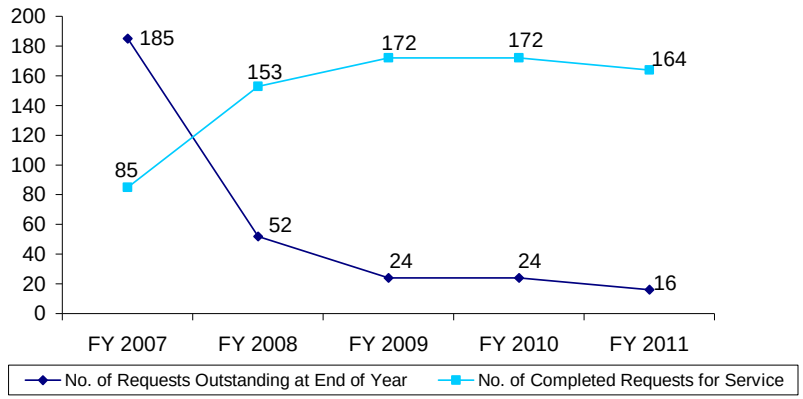
The Applications division performs the full range of computer systems development, including feasibility studies, systems analysis and design, and computer programming. The division also provides consulting services to end users and provides electronic data management. Applications staff participates with the DIT director, management, and other city administrators in strategic and tactical planning for use of information resources in overall city operations.

In addition, the division provides technology support for the city-wide Enterprise Resource Planning (ERP) financial management system and integration into user agencies' workflow processes in the city. This division also implements the city's data processing plans for ERP financial, human resource/payroll, budgeting management, and other automated systems. Applications provides Computer Services Representative (CSR) support services.

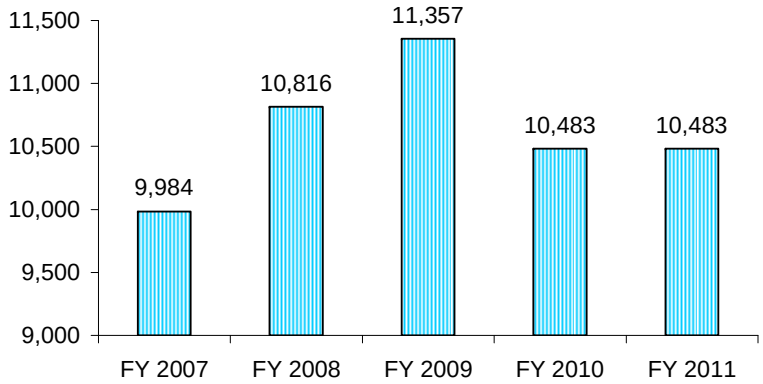
In FY 2011, operating expenditures totaled $4 million, a 9% increase from $3.6 million in FY 2007. According to the department, the increased expenditures were due to new positions created for CSR and ERP support staff and salary increases in 2008. In addition, applications staff logged 1,526 hours developing the web-based Advantage Budgeting System (ABS). ABS replaces the BRASS operating budget system formerly used by the city. ABS began operations in FY 2012. This city's ABS CIP budgeting system has been operational since FY 2009. The ABS system will allow various ERP applications (finance, human resources/ payroll, and budget) to share data.

The number of new requests for service increased 50% from FY 2007 (105) to FY 2011 (158). According to the department, the increase in requests for services is attributed to the integration of the ERP application with various external applications, which resulted in more requests for reports and interfaces. The number of requests outstanding at the end of the year declined from 185 in FY 2007 to 16 in FY 2011, a 91% drop. The department explained that many of the FY 2011 requests had to be completed by the end of the fiscal year (e.g. discontinuation of furloughs and accounting fiscal year end changes).

Total Completed Requests for Service v. Total Requests Outstanding at End of Year



Staff Hours Spent on Analysis and Programming



Sources: Executive Operating Program and Budgets (FY 2009-2012) and Department of Information Technology

	Applications				ERP-CSR		
	Applications Operating Expenditures ($ million)	Total New Requests For Service	Total Completed Requests for Service	Total Requests Outstanding at End of Year	Maintenance and Problem Solving (Staff Hours)	Analysis and Programming (Staff Hours)	Overhead (Staff Hours)
FY 2007	$3.6	105	85	185	34,994	9,984	4,992
FY 2008	$4.0	120	153	52	37,856	10,816	5,408
FY 2009	$4.2	183	172	24	37,315	11,357	5,408
FY 2010	$4.2	183	172	24	34,445	10,483	4,992
FY 2011	$4.0	158	164	16	34,445	10,483	4,992
Change over last 5 years	9%	50%	93%	-91%	-2%	5%	0%

Sources: Executive Operating Program and Budgets (FY 2009-2012), Department of Budget and Fiscal Services, and Department of Information Technology

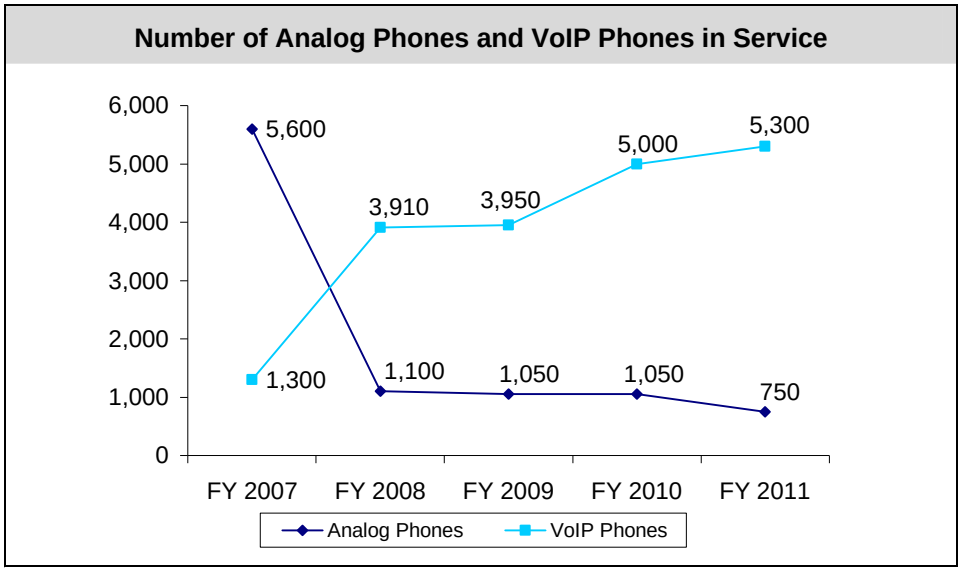
Radio and Network Infrastructure & Technical Support

Photo courtesy of the Department of Information Technology

The Radio and Network Infrastructure division provides support to Honolulu communications, including radio, microwave, fiber, wired, and 800 MHz and related systems. This division is responsible for management of related technology facilities such as buildings and towers. The division manages tower, fiber, and wireless construction projects, and functions as DIT's technical advisor for new construction projects citywide.

Operating expenditures increased 6% over the past 5 years. According to the department, the increase is due to costs associated with upgrading the city's outdated email system. Radio and Network Infrastructure supported 185 Local Area Networks (LAN) in FY 2011, an increase of 23% from the 150 networks in FY 2007. According to the department, the increase in LANs was necessary as additional sites were added to the city's network with fiber, microwave, DSL, cable modem, and wireless technologies.

The Technical Support division plans, installs, administers, and maintains systems software for the mainframe and midrange computers. The division also supports and controls the servers, communications networks, and storage area networks. Responsibilities also include protection, security, and integrity of the city's information resources. Security-related functions include enforcing policies and procedures in the monitoring and preventing attacks on the city's information systems.



Source: Executive Operating Program and Budgets (FY 2009-2012) and Department of Information Technology

In FY 2011, technical support completed the city-wide migration from the legacy telephone system to the Voice-Over-Internet-Protocol (VoIP). The project, which began in FY 2005, replaced 5,000 analog phones with technologically-advanced phones. According to the department, the conversion to VoIP technology has already reduced telephone operating costs from $1.2 million in 2005 to $800,000 in FY 2011. Additional benefits include reduced floor space, power, and cooling requirements.

One of the challenges facing the technical support division is researching and implementing technology to minimize security risks associated with use of mobile computing devices connected to the city's network. Technical support plans to test a pilot program that will allow city employees to connect to their city exchange email account via personal mobile devices.

	Technical Support					Radio and Network	
	Technical Support Operating Expenditures ($ million)	Analog Phones	VoIP Phones	Total Employees w/ Access IDs (Mainframe)	Total Employees w/User IDs (Servers)	Total Local Area Networks	Total 800 MHz Zone Sites
FY 2007	$1.9	5,600	1,300	0	0	150	12
FY 2008	$1.9	1,100	3,910	8,253	9,474	175	12
FY 2009	$2.0	1,050	3,950	8,253	9,474	175	12
FY 2010	$2.0	1,050	5,000	8,253	9,474	175	12
FY 2011	$2.0	750	5,300	8,098	8,327	185	12
Change over last 5 years	6%	-87%	308%	-	-	23%	0%

Source: Executive Operating Program and Budgets (FY 2009-2012), Department of Information Technology, and Department of Budget and Fiscal Services