

File No. 170715

Committee Item No. 4

Board Item No. _____

COMMITTEE/BOARD OF SUPERVISORS

AGENDA PACKET CONTENTS LIST

Committee: Government Audit and Oversight

Date November 15, 2017

Board of Supervisors Meeting

Date _____

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Completed by: Alisa Somera Date November 10, 2017

Completed by: _____ Date _____

**Performance Audit of the
Department of Technology**

**Prepared for the
Board of Supervisors
of the City and County of San Francisco**

**by the
San Francisco Budget and Legislative Analyst**

June 5, 2017

BOARD OF SUPERVISORS
BUDGET AND LEGISLATIVE ANALYST

1390 Market Street, Suite 1150, San Francisco, CA 94102 (415) 552-9292
FAX (415) 252-0461

June 5, 2017

Supervisor Jane Kim, Chair, Government Audit and Oversight Committee
Supervisor Aaron Peskin, Vice Chair, Government Audit and Oversight Committee
and Members of the San Francisco Board of Supervisors
Room 244, City Hall
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689

Dear Supervisor Kim, Supervisor Peskin, and Members of the Board of Supervisors:

The Budget and Legislative Analyst is pleased to submit this *Performance Audit of the San Francisco Department of Technology*. In response to a motion adopted by the Board of Supervisors on November 29, 2016 (Motion No. 16-166), the Budget and Legislative Analyst conducted this performance audit, pursuant to the Board of Supervisors powers of inquiry as defined in Charter Section 16.114 and in accordance with U.S. Government Accountability Office (GAO) standards, as detailed in the Introduction to the report.

The performance audit contains six findings and sixteen recommendations directed primarily to the Chief Information Officer. The Executive Summary, which follows this transmittal letter, summarizes the Budget and Legislative Analyst's findings and recommendations.

The interim Chief Information Officer has provided a written response to our performance audit, which is attached to this report, beginning after page 50. We would like to thank the interim Chief Information Officer and his staff for the assistance they provided.

We are available to present our findings at a hearing or conduct a follow up analysis on the status of implementing the recommendations in the report.

Respectfully submitted,



Severin Campbell, Director
Budget and Legislative Analyst's Office

cc: President Breed
Supervisor Cohen
Supervisor Farrell
Supervisor Fewer
Supervisor Ronen
Supervisor Safai
Supervisor Sheehy
Supervisor Tang
Supervisor Yee

Mayor Lee
City Administrator
Clerk of the Board
Jon Givner
Melissa Whitehouse
Controller
Interim Chief Information Officer

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Executive Summary

The Board of Supervisors directed the Budget and Legislative Analyst's Office to conduct a performance audit of the Department of Technology through a motion (M16-166) passed on November 29, 2016. The performance audit contains findings on the Department of Technology's charges for services, contract management, work order budgeting, customer service, and project management.

The Role of the Department of Technology

Although it is a stakeholder in several public-facing initiatives such as public WiFi, expanding the City's broadband infrastructure, and the Dig Once program, the Department of Technology (DT) is primarily an internal service organization that provides information technology (IT) services to City departments. Services of the Department of Technology include: Help Desk for citywide applications, IT project management, procurement of IT services and equipment, maintenance of public safety communication systems and interdepartmental information networks, televised coverage of public meetings and civic events, data center and cloud systems, development of cybersecurity policies, and maintenance of City web portals and maps. The Department of Technology charges City departments to recover most its costs to provide IT and telephone services and has internal service funds in which these costs and recoveries occur.

The Department is headed by the Chief Information Officer (CIO), reporting to the City Administrator. The last three CIOs have had tenures of 2.0, 1.3, and 2.5 years, respectively, or 1.9 years, on average, which is lower than the tenure of other appointed Department Heads from Departments of similar size and complexity; those City executives typically had an average tenure of 7.4 years. The tenure of the last three CIOs is also lower than the tenure of CIOs of peer jurisdictions. In our benchmark survey, the average CIO tenure was 3.9 years, which is 2.0 years longer than the average tenure of the past three CIOs in San Francisco. As of the writing of this report, the Deputy City Administrator is serving as interim CIO while the City is recruiting a permanent CIO.

The scope for this audit included three topics for which we did not have audit findings: (1) strategic planning, (2) staffing, and (3) information security.

Strategic Planning

As requested by the Board of Supervisors, we reviewed the Department of Technology's strategic planning process. Until August 2016, DT did not have a strategic plan to guide its decision making. The Department's current strategic plan covers FY 2016-17 to FY 2019-20 and is expected to be updated when the new CIO is appointed.

Staffing

Our review included an analysis of the Department's staffing trends. The Department has had 42 to 44 vacant positions at the beginning of the fiscal year from FY 2014-15 to FY 2016-17, for a vacancy rate of 17.3% to 16.4%. This rate is higher than the 12% average vacancy rate for other California county IT departments surveyed in the summer of 2016. To address the ongoing hiring challenges faced by the Department, the prior CIO recruited a Talent Acquisition Manager in 2016 whose immediate responsibility was to bring down the vacancy rate.

Staff currently working at DT reported generally high levels of personal motivation, according to our staff survey. However, less than one-third of respondents reported positive ratings on the Department's professional development efforts and less than half reported being confident in senior leadership. The staff survey results are summarized in Appendix 1.

IT Security

As part of the audit, we reviewed the City's cybersecurity function. The effort is being co-led by the Department of Technology and the Controller's Office. While DT has historically had a cybersecurity function led by the Chief Information Security Officer (CISO), in 2016 the CISO's job duties were expanded to include the entire City. The CISO's primary responsibility is to develop citywide cybersecurity policies and remediate cybersecurity vulnerabilities and threats. In parallel, the Controller is developing an IT audit function to ensure compliance with citywide cybersecurity policies, which must be approved by the Committee on Information Technology, the City's interdepartmental IT policy and planning body.

The CISO reports to the CIO and has a dotted line reporting relationship to the Controller. The purpose of the dual reporting relationship is to manage potential conflicts of interest between ensuring timely implementation of technology solutions and the security of those solutions. However, having the CISO report directly to the CIO may not be optimal. This is because the CIO/CISO conflicts of interest are sometimes unmanageable and because weakness in cybersecurity could impair the entire enterprise, not just the technology department. The City Administrator should monitor trends and best practices in CISO reporting structures and evaluate whether to restructure the CISO's reporting relationship as the City's cybersecurity program evolves.

Below are our six findings and sixteen recommendations regarding charges for services, contract management, work order budgeting, customer service, and project management.

Charges to Departments for Services

The rate model used to recover DT's baseline budget allocates a larger share of costs to larger City departments, although these departments may use proportionately fewer services than smaller departments. Costs are allocated to City departments based on the number of full time equivalent positions (FTEs), which means the largest departments pay most even if they have fewer service requests than smaller departments. In addition, because DT charges by FTE count and does not adjust rates during the fiscal year, costs are misallocated among City departments and some departments overpay for services (and subsidize other City departments) while others to underpay (and are subsidized) for the services they receive. City departments do not always understand the services for which they are being charged and want the ability to choose which services they pay for.

Recommendation 1.1: The DT Chief Financial Officer should evaluate DT's service catalogue for services that may be more equitably billed on a variable basis to customers and adjust cost recovery to variable charges where appropriate.

Recommendation 1.2: In addition, the Chief Information Officer should direct the Department's Deputy Directors to expand the use of DT's time management system to track all staff work, as detailed in Recommendation 6.2.

Recommendation 1.3: The Chief Financial Officer should conduct a true-up analysis of its 081CI recoveries during its preparation of the six-month Budget Status Report and adjust services rates to minimize over or under collection.

Recommendation 1.4: As DT updates its Service Level Agreement with customers, the Chief Financial Officer should prepare more detailed explanations of DT's billing procedures, detail services provided to customers, the basis for their costs, and incorporate this additional information into the new Service Level Agreement.

Contracting

In addition to providing technical services to City departments, the Department of Technology manages at least \$280 million in City contracts for professional IT services and equipment. However, DT's practices for tracking and monitoring contracts are inadequate. Despite prior audit findings recommending that the Department put clear procedures in place, the Department has yet to design and maintain a sufficient database for tracking contract information and has not created any policies for contract monitoring. As a result, at times contracts have been kept current (in terms of payment and term) by the initiative of vendors. The Department's current contract management puts the City in operational and financial risk. Although the Department plans to adopt a vendor management program in the next phase of overhauling its contracting program, there is no current timeline for this, which has been noted in prior audits since at least 2012.

Recommendation 2.1: The Chief Information Officer should direct the Strategic Sourcing Manager to (1) explore options for implementing a contracts management database, and (2) expedite the development of the Contract/Vendor Management program, in conjunction with the adoption of a new data management system.

Recommendation 2.2: The Chief Information Officer should direct the Strategic Sourcing Manager to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.

Work Orders

DT creates project-specific "IT Pass-Thru" work orders to charge City departments for department-specific projects that require additional funding beyond baseline recoveries. However, review of these project work orders revealed that DT does not maintain adequate documentation of these efforts, including budgets, delivery timelines, scopes of work, and basis for costs. Approximately half of the project work orders are not documented at all. This practice makes it difficult for managers to adequately plan and prioritize existing and incoming work, and does not comply with the Controller's recommended best practices for interdepartmental work.

Recommendation 3.1: The DT Chief Financial Officer should develop policies and procedures to document (a) line-item budgets, (b) delivery timelines, (c) scopes of work, and (d) basis for costs for all IT Pass Thru work orders, including those finalized during the annual appropriation process. In addition, the CFO should develop clear criteria to determine whether service requests may be accomplished within baseline recovery revenues or require additional funding and incorporate that into the FY 2017-18 service level agreement with customers.

Customer Service

As an internal service organization, DT's primary mission is to provide IT services to other City departments. In its strategic plan, the Department of Technology seeks to be a customer-oriented service provider; however, DT does not routinely measure customer satisfaction and business needs, despite prior management assessments recommending doing so. In addition, DT's customer service procedures could be strengthened. DT's service level agreement with City departments is outdated, and does not align with categories in its new workload management system, ServiceNow. Nor does DT consistently provide the service level agreement to City departments.

Recommendation 4.1: The Chief Information Officer should direct the Deputy Director of Client Services to reconcile and develop interim documentation of its SLA and ServiceNow procedures for FY 2017-2018. This documentation should be distributed to all DT customers when it is available

Recommendation 4.2: The Chief Information Officer should prioritize filling vacant budgeted positions in the Client Engagement Office.

Project Management

The Project Management Office (PMO) does not have a clearly defined role in the Department of Technology, impairing its ability to effectively carry out projects. DT invests nearly \$2.0 million annually in the PMO, but has not maximized the PMO's usefulness. As a result, the Project Management Office does not consistently plan for and define the scope of IT projects, which may result in significant project changes and corresponding project delays and/or cost increases. In addition, the PMO does not have sufficient procedures to assign resources to projects or to track project timelines and budgets.

Recommendation 5.1: The Chief Information Officer should (1) direct the Deputy Director for Client Services to rewrite the PMO mission statement to strengthen the PMO's defined role, (2) direct the Deputy Directors for DT's four divisions to write procedures for assignment of technical staff to PMO projects, and (3) direct the Deputy Director for Client Services to develop procedures for PMO oversight of non-PMO project managers and vendors.

Recommendation 6.1: The Chief Information Officer should direct the Deputy Director for Client Services to (1) develop more detailed formal protocols on project definition, planning and scope, including working with clients on project scope, and (2) train and evaluate project managers on implementation of these protocols.

Recommendation 6.2: The Chief Information Officer should direct DT's Deputy Directors to (1) require that all staff time is entered into a time management system in order to track all staff work, not just work billed to IT Pass-thru work orders; and (2) reconcile timekeeping records with Project Online records monthly.

Recommendation 6.3: The DT Chief Financial Officer should work with the Deputy Director for Client Services to revise Finance Division guidelines to require that invoices be routed to project managers for approval.

Recommendation 6.4: The Chief Information Officer should direct the Deputy Director for Client Services should revise PMO project guidelines to require project managers to manage budgets.

Recommendation 6.5: The CIO should direct the Deputy Director for Client Services to implement Project Online controls, including (1) defining appropriate use of data for and reporting on color-coded status reports; (2) requiring approval by the PMO manager for project changes that exceed a threshold defined by the PMO.

Recommendation 6.6: The CIO should direct the Deputy Director for Client Services to work with the Strategic Resourcing Manager to implement Recommendation 2.3 to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.

Conclusion

The Department of Technology is an internal service provider of information technology for City departments. Although DT staff technical skills were rated highly in a survey of customer departments, DT customers would benefit from the Department having additional policy and consistency regarding charges for services and projects as well as customer services processes. In addition, the Department's contract management procedures pose financial and operational risk to the City. Finally, the purpose and authority of DT's Project Management Office needs to be better defined in order for that Office to effectively manage City IT projects. The sixteen recommendations in this audit will help DT formalize its existing practices and bring those practices into alignment with best practices. These recommendations may be implemented without exceeding the Department of Technology's current budget plan.

Introduction

The Board of Supervisors directed the Budget and Legislative Analyst's Office to conduct a performance audit of the Department of Technology through a motion (M16-166) passed on November 29, 2016.

Scope

The scope of this performance audit included: (1) Staffing, recruitment, and retention, (2) Information security, (3) Strategic planning and project management, (4) Customer service and performance management, and (5) Financial management.

Methodology

The performance audit was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS), 2011 Revision, issued by the Comptroller General of the United States, U.S. Government Accountability Office. In accordance with these requirements and standard performance audit practices, we performed the following performance audit procedures:

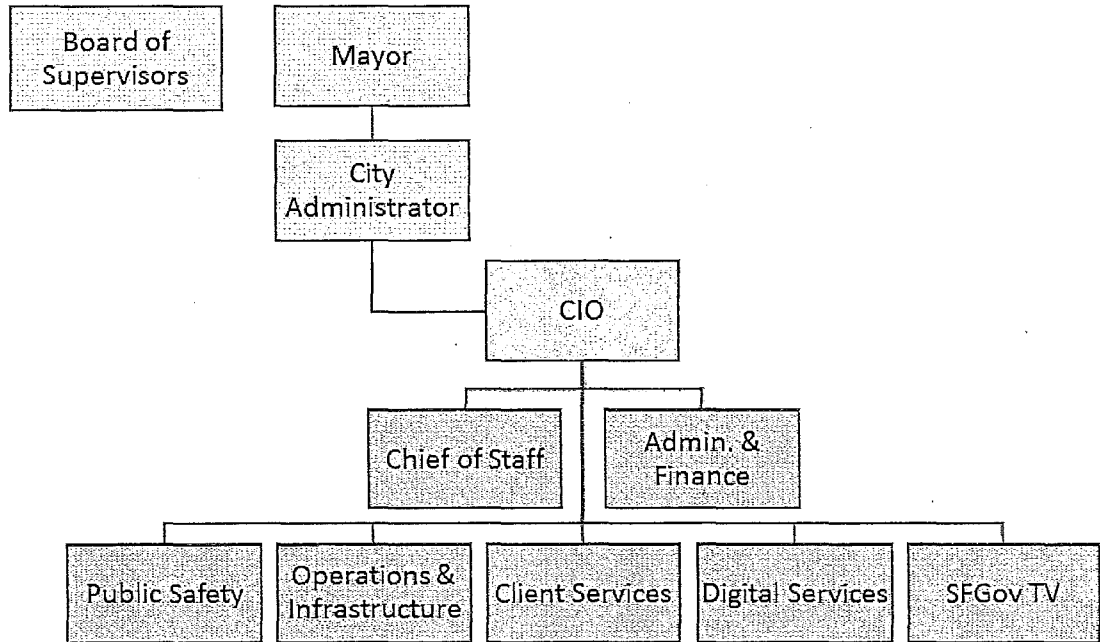
- Conducted interviews with executive, management, and other staff at the Department of Technology and a sample of client departments.
- Conducted reviews of (a) contract files for equipment and professional service vendors, (b) financial reports and data, (c) the Department's cost recovery model, (d) departmental policies and procedures, (e) strategic planning documents, (f) workload data, (g) human resource data, and (h) project documentation and data.
- Conducted electronic surveys of Department of Technology staff. Surveys were sent to all Department staff and contractors. We received 123 responses (121 City staff and 2 contractors) or from approximately 45% of the Department's 269 budgeted staff. Survey results are included in Appendix 1 of this report.
- Conducted electronic surveys of Department of Technology customers. Surveys were sent to 52 departmental CIOs, lead IT managers, or in the case of small departments, the department head. Of the 52 departments surveyed, 29 departments or 56% of those surveyed provided responses. Survey results are included in Appendix 2 of this report.
- Conducted a benchmarking survey of other jurisdictions' technology departments to identify common and best practices. Jurisdictions were chosen based on their similarity to San Francisco and because they had been recognized as leaders in civic technology. The jurisdictions surveyed were:

- Austin, TX
 - Denver, CO
 - Las Vegas, NV
 - Long Beach, CA
 - Los Angeles, CA
 - Louisville, KY
 - Philadelphia, PA
 - Phoenix, AZ
 - Portland, OR
 - Riverside, CA
 - Sacramento, CA
 - San Jose, CA
 - Seattle, WA
- Submitted a draft report, with findings and recommendations, to the Department of Technology on May 1, 2017; and conducted an exit conference with the Department of Technology on May 10, 2017.
 - Submitted the final report, incorporating comments and information provided in the exit conference, to the Department of Technology on June 5, 2017.

Functions of the Department of Technology

Although it is a stakeholder in several public-facing initiatives such as public WiFi, expanding the City's broadband infrastructure, and the Dig Once program, the Department of Technology (DT) is primarily an internal service organization that provides information technology (IT) services to City departments. Services of the Department of Technology include: Help Desk for citywide applications, IT project management, procurement of IT services and equipment, maintenance of public safety communication systems and interdepartmental information networks, televised coverage of public meetings and civic events, data center and cloud systems, development of cybersecurity policies, and maintenance of City web portals and maps. DT's organizational structure is presented in Exhibit 1 below.

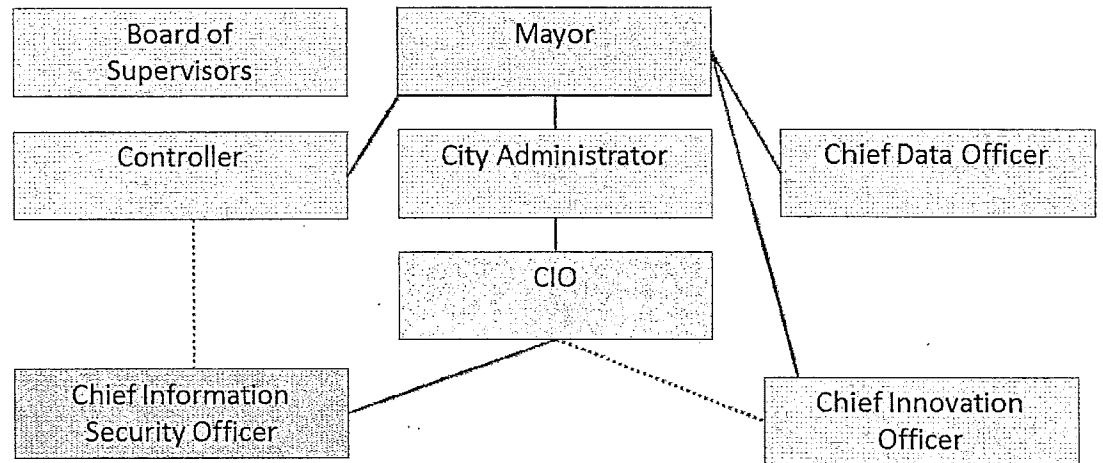
Exhibit 1: Department of Technology Organizational Structure



Source: Department of Technology

In addition, DT has three other functions which are budgeted in the department but operate independently or semi-independently from the CIO. The department has a cybersecurity function headed by the City's Chief Information Security Officer who is responsible for developing policies that protect the City's IT assets and who reports to the CIO and to the Controller. The City also has a Chief Innovation Officer, who reports to the CIO and to the Mayor, who leads special technology projects for City departments. In March 2013, the Board of Supervisors approved legislation that amended Section 22D of the Administrative Code to establish the position of the Chief Data Officer, reporting to the Mayor, to implement the City's open data policies. These reporting relationships are summarized in Exhibit 2 below.

Exhibit 2: Reporting Structure for DT Positions with Citywide Responsibility



Source: Department of Technology

As noted above in Exhibits 1 and 2, DT has twelve division managers, nine of whom report to the CIO and three additional ones that report to the CIO and/or the Mayor or other City executives. The divisions are summarized below.

Administration and Finance

The Administration and Finance Division is responsible for managing the department's budget, accounting, billing clients for work orders, IT procurement, and space management.

Operations & Infrastructure

The Operations and Infrastructure Division is responsible for maintaining DT's core operations, including: data center and mainframe systems, cloud-based systems, database administration, advanced application support, and telephone and networking systems.

Client Services

The Client Services Division has three business units: Help Desk (Client Support Services), the Project Management Office, the Network Operations Center, and the Client Engagement Office. The Network Operations Center is a 24/7 operation that monitors telephone and network systems. The Client Engagement Office, also known as the Business Relationship Management Unit, currently has no staff.

Cybersecurity

The Cybersecurity Division is led by the Chief Information Security Officer is responsible for ensuring the protection of the City's IT assets. This Division's efforts are discussed in further detail below.

Digital Services

The Digital Services Division is responsible for developing the City's web sites and portals and developing maps the present City data geospatially.

Chief of Staff

The Chief of Staff oversees the functions of Policy and Governance, Communications, and IT Recruitment, Retention, and Training. Policy and Governance focuses on both internal department policies and IT policies that affect the City as a whole, while governance sets the parameters for the organizational practices within IT. Communications' primary focus is internal, with special attention to the DT's client departments, the Mayor's public information team, and, when necessary, various media outlets. Tech Recruitment, Retention, and Training aims to recruit and retain IT skill sets for both the DT and other departments, specifically the Department of Public Health. The Chief of Staff works closely with the CIO to develop the department's strategic plan, monitor implementation, evaluates the plan against performance, and is responsible for data analysis and reporting.

Public Safety

The Public Safety Division is responsible for maintaining the City's radio, emergency communication, and surveillance systems as well as installing and maintaining the City's network infrastructure.

SFGov TV

The SFGov TV Division is responsible for televising and recording public meetings and civic events.

Mayor's Office of Civic Innovation

Operationally independent from DT, the Mayor's Office of Civic Innovation is led by the Chief Innovation Officer. The Office develops partnerships with private technology firms to help optimize City departments' business processes.

Open Data

Also operationally independent from DT, the Open Data Office is led by Chief Data Officer. The Office is responsible for implementing the City's open data policies, as defined in Chapter 22D of the Administrative Code.

Committee on Information Technology

The Committee on Information Technology (COIT) is the City's interagency information technology policy and investment planning body. The body is separate from DT and makes decisions through majority votes of its members, City departments.

In July 2010 the Board of Supervisors approved changes to the Administrative Code that reorganized COIT and articulated its functions. COIT is composed of five permanent members consisting of the Mayor, the President of the Board of Supervisors, the Controller, the City Administrator, and the CIO, or their designees, as well as eight non-permanent members consisting of other Department Heads or their designees. The five permanent members and eight non-permanent members are voting members of COIT.

COIT's major output is the City's Information and Communication Technology (ICT) plan. The ICT Plan includes an assessment of the City's information technology needs, an estimate of timelines and investments required to meet those needs, and recommendations to budget for or otherwise finance the investments. The plan is revised biannually and submitted to the Mayor and Board of Supervisors for approval and to inform the annual appropriation process. In addition, Administrative Code Section 22A.3 states that COIT must approve Citywide information technology standards, policies, and procedures.

Budget Structure of the Department of Technology

As discussed in *Section 1: Financial Management*, the Department of Technology charges City departments to recover most its costs to provide IT and telephone services. The Department has internal service funds in which these costs and recoveries occur. The Department receives a General Fund allocation to cover a portion of SFGov TV costs and departmental costs of certain projects. In addition, the Department has special funds to segregate restricted funding. In FY 2016-17, DT had two special funds: (1) to track expenditures associated with a state grant and (2) to track expenditures from cable television franchise fees, the use of which is regulated by State law. Exhibit 3 below summarizes DT's budget structure.

Exhibit 3: DT Budget Structure

	2013-14	2014-15	2015-16	2016-17	Percent Change
General Fund	\$2,707,223	\$3,593,502	\$6,722,645	\$7,720,445	185%
Internal Service Fund	60,128,296	67,673,790	67,840,520	84,803,385	41%
Telephone Fund	16,945,567	18,727,805	18,902,908	18,976,721	12%
Special Funds	2,965,860	3,018,100	3,275,330	3,335,546	12%
Total	\$82,746,946	\$93,013,197	\$96,741,403	\$114,836,097	39%

Source: Budget and Legislative Analyst review of FAMIS data.

Note: 2016-17 refers to the Mayor's proposed budget. All figures exclude expenditure recoveries. The Internal Service Fund excludes Continuing Project sub-fund as that is an inter-fund transfer.

Although DT's budget has increased 39% from \$82.7 million in FY 2013-14 to \$114.8 million in FY 2016-17, the Department's funded positions have increased by 8%. As shown in Exhibit 4 below, the Department has expanded from 250 FTEs in FY 2013-14 to 269 FTEs in FY 2016-17. Over that same time period, the Department's budget for professional service contracts has fluctuated between \$3.8 million to \$9.2 million but has been declining since FY 2014-15.

Exhibit 4: DT Full-time Equivalents (FTEs)

	2013-14	2014-15	2015-16	2016-17	Percent Change
FTEs	250	249	252	269	8%
Professional Services Budget	\$4,313,781	\$9,159,132	\$7,888,243	\$3,799,110	-12%

Source: Budget and Legislative Analyst review of FAMIS data

Note: 2016-17 refers to the Mayor's proposed budget.

The Chief Information Officer

In July 2010 the Board of Supervisors approved changes to Administrative Code Section 22A that created the Chief Information Officer (CIO) position. The CIO has a dual role to be both the director of the Department of Technology and to oversee and develop citywide planning, policies, and standards for information technology, which then must be approved by COIT. In addition, per the Administrative Code, the CIO must approve all information technology purchases by City departments.

The last three CIOs have had tenures of 2.0, 1.3, and 2.5 years, respectively, which is lower than the tenure of other appointed Department Heads from Departments of similar size and complexity. Exhibits 5 and 6 below show the tenure of a selection of City Department Heads and the tenure of the past three DT CIOs.

Exhibit 5: Tenure of Sample Non-Elected SF Department Heads

Department	Current Dept. Head Tenure (years)	Prior Dept. Head Tenure (years)
Airport	0.9	20.0
Emergency Management	6.3	3.0
Fire	13.3	3.0
Human Services	16.5	Unknown
Library	12.0	3.0
MTA	6.0	5.0
Port	0.5	12.0
Public Health	6.4	13.0
Public Works	6.6	3.7
Rec. & Parks	7.8	Unknown
SF PUC	4.6	4.0
Average Tenure (years)	7.3	7.4

Source: Budget and Legislative Analyst benchmarking survey

As shown in Exhibit 5 and 6, the tenure of the past three CIO's has been shorter than our sample of non-elected City Department heads. We surveyed other cities of comparable size that have won awards for excellence in civic technology to benchmark the City's experience. As shown below in Exhibit 6, the average CIO tenure in our benchmark cities is less than the tenure observed in our sample of City Departments. This suggests that the turnover in the CIO position at DT may be common in the industry. However, as noted in above in Exhibit 5, the last three CIOs have had an average tenure of 1.9 years, which is less than the average CIO tenure of 2.8 - 3.9 years observed in our benchmark cities. According to interviews with DT staff, the CIO turnover has adversely affected morale within the Department. In our survey of DT staff, described below, less than half of respondents had confidence in DT's executive management's leadership skills and ability to execute the Department's strategic priorities.

Exhibit 6: Tenure of Past Three DT CIOs

	Duration	Years
DT CIO 1	July 2010 to Jan. 2013	2.5
DT CIO 2	April 2013 to Aug. 2014	1.3
DT CIO 3	Dec. 2014 to Dec. 2016	2.0
	Average CIO Tenure (years)	1.9

Source: Department of Technology

Exhibit 7: Tenure of CIOs in Benchmark Jurisdictions

City	Tenure of current CIO (years)	Tenure of Prior CIO (years)
Austin, TX	6.6	0.7
Denver, CO	1.5	2.7
Long Beach, CA	1.8	10.0
Los Angeles, CA	2.0	2.5
Louisville, KY	2.7	New position
Philadelphia, PA	1.1	4.5
Phoenix, AZ	5.2	2.5
Portland, OR	1.7	2.4
Riverside, CA	3.9	7.3
Sacramento, CA	3.8	2.9
San Jose, CA	0.7	5.4
Seattle, WA	2.8	2.0
Average (years)	2.8	3.9

Source: Budget and Legislative Analyst benchmarking survey

Note: An additional city, Las Vegas, NV, was excluded from the analysis because their prior CIO has been in the position 18 years.

As of the writing of this report, the Deputy City Administrator is serving as interim CIO while the City is recruiting a permanent CIO.

Information Security

The City is custodian of a variety of sensitive data, including: physical and mental health records, social security numbers, payment and bank information, privileged information, and personnel files. In addition, it provides critical services to the public such as public safety, water distribution, and public transit. The City is not immune to cyberattacks and such attacks can be costly. In November 2016, the Municipal Transportation Agency was forced to shut down all of its ticketing machines for two days in order to contain a cyberattack on its systems. According

to a 2016 report by the RAND Corporation, the median cost of 963 reviewed cyber incidents nationwide, such as system intrusion by unauthorized parties, data theft, and malware attacks, ranged from \$150,000 to \$1,340,000, depending on the type of incident.¹ Exposure of federally protected health records are more expensive and may result in criminal penalties. For example, a Florida nonprofit hospital which improperly disclosed the information of 115,000 patients to affiliated physicians' offices was fined \$5.5 million in February 2017.² The RAND report found that government entities had the highest cyber incident rate of any other industry, including education, information services, and finance. In addition to the financial losses, a successful cyberattack could expose City data to manipulation, loss, or breach, hamstringing City operations and critical services, and erode public trust.

The City is currently evolving its cybersecurity function. The effort is being co-led by the Department of Technology and the Controller's Office. While DT has historically had a cybersecurity function led by the Chief Information Security Officer (CISO), in 2016 the CISO's job duties were expanded to include the entire City. The CISO's primary responsibilities are to develop citywide cybersecurity policies and remediate cybersecurity vulnerabilities and threats.

In November 2016, COIT approved a citywide cybersecurity policy. The policy requires that City Departments adopt a cybersecurity framework to protect their IT assets. The policy directed Department heads to designate cyber security officers to coordinate interdepartmental efforts and to participate in interdepartmental cybersecurity meetings.

A parallel effort is underway at the Controller's Office to ensure City Departments comply with COIT cybersecurity policies. The City Services Auditor issued cybersecurity readiness assessments of City Departments in Spring 2017 and is currently developing a work plan to audit compliance with the City's cybersecurity policies. The Controller expects to audit 2 -3 City departments per year started in FY 2017-18. That office has hired an IT Audit Manager and two IT Security Auditors in the current fiscal year to conduct these audits going forward.

As noted above, the CISO reports to the CIO and has a dotted line reporting relationship to the Controller. The purpose of the dual reporting relationship is to manage potential conflicts of interest between ensuring timely implementation of technology solutions and the security of those solutions. The Budget and

¹ Sasha Romanosky, "Examining the Costs and Causes of Cyber Incidents", Presentation at the Federal Trade Commission, January 14, 2016. "Cyber incidents" included data breaches, privacy violations, security incidents, and phishing attacks.

² "\$5.5 million HIPAA settlement shines light on the importance of audit controls," Health and Human Services, February 16, 2017

Legislative Analyst conducted a survey of other jurisdictions to benchmark the CISO's reporting structure and found that it is consistent with that of its peers.³

However, having the CISO report directly to the CIO may not be optimal. This is because the CIO/CISO conflicts of interest are sometimes unmanageable and because weakness in cybersecurity could impair the entire enterprise, not just the technology department. Of note also, the CISO is not a voting member of COIT, which must approve all citywide technology policies, nor does the CISO regularly report to the Board of Supervisors. Instead, as shown in Exhibit 7 above, the CISO reports to directly to the CIO who in turn reports to the City Administrator. The City Administrator should monitor trends and best practices in CISO reporting structures and evaluate whether to restructure the CISO's reporting relationship as the City's cybersecurity program evolves.

Strategic Planning

As requested by the Board of Supervisors, we reviewed the Department of Technology's strategic planning process. Until August 2016, DT did not have a strategic plan to guide its decision making. The Department's current strategic plan covers FY 2016-17 to FY 2019-20, and includes a mission statement, vision statement, and key strategies for implementation. In addition, six key strategies for the Department are identified:

- Connectivity
- Digital Services
- Tech as a Service
- Cybersecurity
- Tech Talent
- Operational Excellence

Each strategy has an associated set of objectives, key performance indicators, initiatives, and milestones. Every initiative identifies key staff contributors and a timeline for tracking progress over the next four fiscal years. DT's Chief of Staff monitors the Department's adherence to milestone timelines and produces quarterly reports on the Department's progress. The Strategic Plan is expected to be updated when the new CIO is appointed.

³ Of the thirteen cities from which we sought information, eight have their CISO reporting to the CIO, one had the CISO reporting to the equivalent of a Deputy Director, one was going through an organizational restructuring, and three did not respond to our inquiries.

Staffing

The Department has had 42 to 44 vacant positions at the beginning of the fiscal year from FY 2014-15 to FY 2016-17, for a vacancy rate of 17.3% to 16.4%, as shown in Exhibit 8 below. This rate is higher than the 12% average vacancy rate for other California county IT departments surveyed in the summer of 2016, which included Contra Costa, Los Angeles, San Mateo, Alameda, Sacramento and Fresno.

Exhibit 8: Vacant Positions at Beginning of Fiscal Year FY 2014-15 to FY 2016-17

	Vacancies at beginning of fiscal year	Total FTEs	Percent Vacant
FY 2014-15	43.00	249.00	17.3%
FY 2015-16	42.00	252.00	16.7%
FY 2016-17	44.00	269.00	16.4%

Source: DT Report to Budget and Legislative Analyst

To address the ongoing hiring challenges faced by the Department, the prior CIO recruited a Talent Acquisition Manager in 2016 whose immediate responsibility was to bring down the vacancy rate. By December 2016, the number of vacancies was reduced to 38 positions, or 14.1% of 269 total FTEs in FY 2016-17.

The Talent Acquisition Manager achieved these results through an aggressive recruitment strategy that incorporated private sector tactics (such as using social media) as well as a personalized matching process that the Manager directly oversees.

Promotional Opportunities

Despite this marked improvement in hiring, Department employees expressed dissatisfaction with the Department's internal promotions process, according to the employee survey conducted for this audit. The survey found that:

- 28% of respondents agreed or strongly agreed with "understanding what is expected to obtain a promotion"
- 22% of respondents agreed or strongly agreed with "believing that the department's process for promotion and advancement is always fair"

However, a review of the Department's hiring data over the past two years indicates that the Department has significantly increased the number of promotions.

Exhibit 9: Hires by Type, FY 15-17 to FY 16-17

Hire Type	FY 15-16	FY 16-17
New Hire	5	30
Promotion	0	15
Total	5	45

Source: DT Workforce Report as of 12/19/16

As shown above, one-third of the Department's hires in FY 16-17 (as of 12/19/16) were promotions, reflecting a marked change in how vacant positions are filled.

The Department should continue to fill vacant positions rapidly, with a focus on increasing the number of positions filled through promotion. In addition, the Department should improve communication to staff about promotional opportunities and results throughout the year.

Budget & Legislative Analyst Staff Survey, March 2017

The Budget and Legislative Analyst staff conducted a staff survey in March 2017 to understand and assess staff experience working at DT. Respondents reported generally high levels of personal motivation working at DT. At least 69% of respondents reported agreeing and strongly agreeing with the following:

- Believing that their opinions and ideas count at work (69%)
- Being able to participate in decisions that affect their work (70%)
- Feeling satisfied with their level of responsibility at work (74%)
- Feeling a sense of achievement from their work (78%)

However, as previously noted, less than one-third of respondents reported agreeing and strongly agreeing with the following statements on professional development:

- Receiving annual performance evaluations regularly (32%)
- Understanding what is expected of them to obtain a promotion (28%)
- Believing that the department's process for promotion and advancement is always fair (22%)

In addition, less than half of respondents reported agreeing and strongly agreeing with the following statements on leadership at DT:

- Being confident in the leadership skills and abilities of senior leaders at the department (45%)
- Believing that senior leaders effectively execute the department's strategic priorities and goals (42%)

Common themes in written comments included:

- Needing stable and effective leadership and management
- Addressing the high turnover of CIOs
- Promoting a culture of accountability and teamwork across all divisions and staff levels

- Increasing communication between DT divisions, as well as between senior managers and line staff
- Increasing staff training and professional development opportunities
- Increasing opportunities to promote from within DT

Acknowledgements

We would like to thank the staff of the Department of Technology for their assistance during this audit process.

1 Charges to City Departments for Services

The rate model used to recover DT's baseline budget allocates a larger share of costs to larger City departments, although these departments may use proportionately fewer services than smaller departments. Costs are allocated to City departments based on the number of full time equivalent positions (FTEs), which means the largest departments pay most even if they have fewer service requests than smaller departments. In addition, because DT charges by FTE count and does not adjust rates during the fiscal year, costs are misallocated among City departments and some departments overpay for services (and subsidize other City departments) while others to underpay (and are subsidized) for the services they receive. City departments do not always understand the services for which they are being charged and want the ability to choose which services they pay for.

The Department of Technology's Service Charges

The Department of Technology (DT) recovers costs for services it provides to other departments through the City's work order system. DT has five major work order categories:

Exhibit 1.1: Summary of DT Work Order Categories

Work Order Category	Charge Code	Description	Cost Recovery
IT Enterprise Services	081CI	DT "baseline" costs and COIT projects	Allocated to customers based on proportional share of citywide FTEs or other fixed cost-drivers
IT Pass-thru	081C5	Discrete work efforts that cannot be accommodated within baseline budget	Charged to customers as actual expenditures occur
Telephone Pass-thru	081ET	Pass-through charges for landline, cellular, and other telecommunication service charges	Charged to customers based on historical actual service charges
Enterprise Service Agreement	081EA	Charges for citywide IT service agreements	Charges to customers based on number of software licenses
SFgovTV	081CW	Charges to support video production of public meetings and other City activities	Charged to customers as actual expenditures occur

Source: Department of Technology

The table below summarizes the amount of each work order category in FY 2015-16. As shown below, charges allocated to City departments to fund DT's baseline budget (IT Enterprise Services) make up nearly one-half of DT's work orders, followed by project work that is billed as IT Pass-Thru.

Exhibit 1.2: Summary of DT Work Orders, FY 2015-16

Work Order Category	Count	Original Budget	Adjusted Budget	Actual Expenditures	Remaining Balance*
IT Enterprise Services	122	\$53,707,792	\$59,829,686	\$53,358,615	\$0
IT Pass-thru	338	20,406,458	39,190,448	23,139,854	16,084,663
Telephone Pass-thru	160	19,189,591	20,137,278	17,895,484	1,048,560
Enterprise Agreement	37	1,848,296	1,949,398	1,229,572	724,687
SFgov TV	59	909,009	1,047,653	794,765	76,138
Total	716	\$96,061,146	\$122,154,464	\$96,418,290	\$17,934,048

Source: Budget and Legislative Analyst review of Department of Technology data

DT allocates baseline costs to City departments based on the number of positions, resulting in the largest departments paying for more than their share of services

As noted above, the Department of Technology recovers most of its costs to provide service through work orders. Baseline operating budget costs are recuperated through the IT Enterprise Services (081CI) work orders, which are allocated to departments and billed on a monthly basis. Baseline services are not defined in DT's most recent service level agreement nor in any other Department policy. The Department informally categorizes baseline services as the cost of maintaining existing systems.

Except for email, which is billed to customers based on their proportional share of the City's total email boxes, DT's operational costs are billed to customers based on each department's proportional share of the City's FTE count. However, because larger departments usually have internal IT staff, they pay for services that they do not use.

According to DT management, nearly all of its ongoing service work is captured in its new ticket system, Service Now. We reviewed ticket data for a sample of departments to compare their service utilization and their proportional share of the citywide FTE count, the basis for DT's operational charges. As shown in Exhibit 1.3 below, large departments often use fewer services per FTE than smaller departments because their in-house IT staff are able to handle many of these departments' IT needs. The City's ten largest departments represent 82% of FTEs and 55% of DT active, closed and fulfilled service orders. The remaining 45% of DT active, closed and fulfilled service orders are used by 37 other City departments, comprising 18% of FTEs. DT's current cost recovery methodology and practices mean that customers are charged for services that they do not receive.

Exhibit 1.3: Service Orders by Department Compared to FTE-based Service Charges August 2016 to February 2017

Department	Number		Percent	
	FY 2016-17 FTEs	Active, Closed, Fulfilled Service Orders	FTEs	Service Orders
Public Health	6,806.30	2,283	22%	18%
Municipal Transportation Agency	5,159.98	692	17%	5%
Police	3,013.38	705	10%	6%
Human Services Agency	2,067.89	1,119	7%	9%
Public Utilities Commission	1,636.96	746	5%	6%
Fire	1,619.78	283	5%	2%
Airport	1,540.77	213	5%	2%
Sheriff	1,056.16	235	3%	2%
Public Works	981.44	471	3%	4%
Recreation & Park	935.45	291	3%	2%
Subtotal, 10 Largest Departments	24,818.11	7,038	82%	55%
37 Other City Departments	5,568.56	5,656	18%	45%
Total *	30,386.67	12,694	100%	100%

Source: BLA analysis of DT service requests compared to FTE count in FY 2017-17 Annual Appropriation Ordinance

* Does not include service requests by DT, or agencies not included in the AAO.

For centralized services for which benefits are equally shared among customers and constant, for example such as information security or networking services, FTEs are a reasonable basis to allocate costs to customers. However, many of DT's services benefits specific customers at specific times and therefore FTEs are not an equitable proxy for service cost drivers.

The Project Management Office (PMO), for example, could be billed to customers on a variable basis, based on the number of hours each project manager devotes to each customer's project. The PMO's fixed costs could be spread among the productive hours of the PMO staff whose hours could then be billed to customers based on work on projects that directly benefits them. DT already has a time-keeping system in place to track employee hours spent on projects, but it is only used to track work hours on projects billed through IT Pass-thru (081C5) work orders rather than project-based work that is considered baseline service and is billed through the IT Enterprise Services (081CI) work orders. DT does not have any standards or procedures to determine when work may be accomplished within its baseline budget and relies on program managers to determine when projects require additional work order funding above baseline revenue.

Currently, the total cost of the PMO, including all its salary costs and contractor costs are allocated to customers based on their proportional share of the citywide FTE count. This is not an equitable billing procedure. According to data from the PMO, that office is managing 40 active

projects in FY 2016-17; 16 have citywide impact, 10 projects benefit a “few” departments, and 14 of its active projects benefit only one department. Further, in our survey of DT customers, discussed below, half reported “N/A” (not applicable) when asked to rate various aspects of the PMO’s performance, suggesting that half of DT’s customers do not use this service. Nevertheless, in FY 2015-16 DT charged City customers \$1.4 million for “baseline” PMO services and specific customers an additional \$219,298 for project work determined to exceed “baseline” services. DT’s fixed recovery methodology for the PMO does not have a cause and effect relationship to customer usage of this service, nor does basing funding allocations on departments’ proportional share of the citywide FTE count have a clear relationship to the service benefits customers receive, both of which are recommended best practices by the Government Finance Officers Association. This is true for DT’s other project-based services, such as the Civic Innovation Office and the Digital Services Office that recover their total baseline costs from customers based on their proportional share of the citywide FTE count.

There are several benefits of variable billing. When appropriate, variable billing fairly allocates costs to customers based on benefits received. Variable billing incents needs-based consumption of services, thus ensuring that services are targeted to customers’ business needs. This is consistent with DT’s stated goal in its current strategic plan to be the City’s “technology provider of choice.” According to the DT Chief Financial Officer, transitioning to a variable billing system may be accomplished within DT’s existing resources.

Recommendation 1.1: The DT Chief Financial Officer should evaluate DT’s service catalogue for services that may be more equitably billed on a variable basis to customers and adjust cost recovery to variable charges where appropriate.

Recommendation 1.2: In addition, the Chief Information Officer should direct the Department’s Deputy Directors to expand the use of DT’s time management system to track all staff work, as detailed in Recommendation 6.2.

Service charges to customers are not adjusted based on actual spending

As noted above, DT charges baseline costs to customers, based on their proportional share of the citywide FTE count or email box count. However, these charges are billed on a budgetary rather than actual basis, so when DT spends less than budgeted, surpluses accumulate in the internal service fund. Best practices for internal service funds put forth by the California State Controller’s office state that fund managers should review recoveries at least midway through the fiscal year and adjust billing rates during the year to avoid material profit or losses. This is to ensure customers pay for only the services they receive. Although DT works with the Controller to develop 6 month and 9 month revenue and expenditure reports, DT does not adjust charges when surpluses or losses are projected. Instead, a portion of year-end surpluses are deducted from the next fiscal year’s baseline costs and credits are allocated to customers based on their proportional share of the citywide FTE count. Exhibit 1.4 below shows the credits to DT customers for the past three fiscal years. As shown below, even though DT credited \$7,140,804 in surplus charges in FY 2013-14 through FY 2015-16, its internal service fund balance also increased by \$5,748,000 or 124% from FY 2013-14 through FY 2015-16.

Exhibit 1.4: Fund Balance and Credits to DT Customers, FY 2014-15 to 2016-17

	ISF Credits (for following FY)	Remaining ISF Fund Balance (after credits)
FY 2013-14	\$4,000,000	\$4,649,000
FY 2014-15	500,000	6,877,000
FY 2015-16	2,640,804	10,397,000
Total Credits	\$7,140,804	
Total Increase in ISF Fund Balance		\$5,748,000
Percent Increase		124%


Source: BLA analysis of DT internal service fund charges and Comprehensive Annual Financial Statements. ISF Fund Balance excludes unfunded pension liabilities

Recommendation 1.3: The Chief Financial Officer should conduct a true-up analysis of its 081CI recoveries during its preparation of the six month Budget Status Report and adjust services rates to minimize over or under collection.

Most City departments do not understand DT's service charges and want more control over the services they pay for.

Invoices by DT to City departments do not detail baseline service charges and charges for COIT projects, rolling these charges into one line-item work order charge that appears as "DT Enterprise Allocation," as shown in Exhibit 1.5 below. In the bill below, the \$1.9 million charge is the Municipal Service Agency's (MTA) bill for DT's 40 baseline services and proportional share of COIT projects for the year. Such invoices are typically not provided to other City departments. Instead charges for services appear as journal entries in the City's financial system without any accompanying explanation of the basis for service costs and services received.

Exhibit 1.5: Sample Bill for DT Baseline Service Charges

 City & County of San Francisco Department of Technology Powered by Innovation			
Invoice by Account Code			
Billing Period: 07/01/2016 to 07/31/2016			
Dept No.:	735		
Department Name:	MTA MUNICIPAL TRANSPORTATION AGENCY		
Project Code:	735CIN		
Project Description:	DT Enterprise Allocation		
735CIN - DT Enterprise Allocation			
	<u>Units</u>	<u>Rate</u>	<u>Charge</u>
Pass-thru Costs: Citywide Infrastructure	1,917,844.50	1.0000	1,917,844.49
Pass-through Costs - Subtotal			1,917,844.49
Total for 735CIN - DT Enterprise Allocation.			1,917,844.49

Source: Department of Technology

City departments generally do not understand DT charges for services, according to City department responses to the Budget and Legislative Analyst's survey, as shown in Exhibit 1.6 below. Of the 31 responding departments, more City departments responded that they did not understand which DT services they were paying for (43%) than responded that they did understand (39%). Also, a much larger percentage of City departments responded that they did not understand how DT develops services charges (46%), than those who did understand (18%).

Exhibit 1.6: Percent of Survey Respondents Agreeing to the Following Statements about Billing

Answer Options	Strongly Disagree or Disagree	Neutral	Agree or Strongly Agree	Don't Know	N/A
I understand which DT services I am paying for	43%	4%	39%	11%	4%
I understand how DT develops service charges and allocates them to my department	46%	21%	18%	11%	4%
DT provides clear explanations for its service rates and charges	39%	25%	18%	14%	4%
I would like to choose which DT services to pay from a service catalogue	4%	14%	71%	7%	4%
I think my charges for DT services are reasonable relative to the level of service provided	36%	18%	25%	14%	7%

Source: BLA survey of DT Customers

DT is currently updating the form of the Service Level Agreement with City departments, which needs to include detailed explanations of service charges.

Recommendation 1.4: As DT updates its Service Level Agreement with customers, the Chief Financial Officer should prepare more detailed explanations of DT's billing procedures, detail services provided to customers, the basis for their costs, and incorporate this additional information into the new Service Level Agreement.

2 Contracting

The Department's practices for tracking and monitoring contracts are inadequate. Despite prior audit findings recommending that the Department put clear procedures in place, the Department has yet to design and maintain a sufficient database for tracking contract information and has not created any policies for contract monitoring. As a result, at times contracts have been kept current (in terms of payment and term) by the initiative of vendors. The Department's current contract management puts the City in operational and financial risk with over \$280 million in contracts. Although the Department plans to adopt a vendor management program in the next phase of overhauling its contracting program, there is no current timeline for this, which has been noted in prior audits since at least 2012.

The Department's current system to track and monitor contracts is inadequate

Procurement of contracts for technology services can occur in multiple ways, depending on the type and size of goods or services needed. The primary methods include:

- Department of Technology Requests for Proposals (RFP)
- Sole Source Contracts
- Technology Marketplace

Technology hardware, software or maintenance services valued at \$10,000 or more must be competitively bid, through an RFP or the Technology Marketplace, unless the department can demonstrate a single provider for a unique service for a sole source agreement.

Originally known as the Computer Store, the Technology Marketplace was created in 1998 to streamline the purchasing of technology goods and services for City departments. The Marketplace allows City departments to purchase technology outside of the regular procurement process in order to receive the goods or service more quickly. This process is managed by the Office of Contracts Administration, and has been codified in Section 21.03(j) of the Administrative Code.

For services and commodities procured through a Request for Proposals, contracts can be awarded as a single purchase order, a contract, a Blanket Purchase Order, or an Enterprise agreement. A Blanket Purchase Order enables a City department to order directly from the vendor in accordance with the Blanket's terms and conditions, allowing for multiple purchases over time. Enterprise agreements cover services that can be provided under a single transaction for multiple users/departments to simplify service delivery and contract management.

As of December 2016, the Department of Technology held contracts for services and equipment totaling over \$283 million (for contracts greater than \$10,000) in Blanket Purchase Orders. Due to inconsistencies in the existing DT contracts database, we cannot clearly identify the additional purchase orders, and their respective contract values, that were released independently of a blanket purchase order. The total estimated contract value of these additional contracts could range from \$2.7 million to \$52.9 million.

Contract Tracking

Until the end of calendar year 2016, the Department did not have a system to track contracts centrally. As a result, at times the Department failed to renew contracts for ongoing services before expiration. According to data provided by the Department, as of February 2017, 35 contracts valued at over \$21 million had expired for services that were still being performed.

Due to inadequate contract tracking, the Department has at times relied upon vendors to alert them to critical contract issues, including unpaid invoices and expiring contracts. This presents risks to the Department and the City in ensuring both the availability of funds and the proper provision of services.

As part of our audit, we reviewed a random selection of contracts valued at or above \$100,000, and found evidence of the risk posed to the City by inadequate contract management. For example, one of the contracts selected is a major multi-year Enterprise agreement. According to Department records, the vendor for this agreement contacted DT to inquire about a pending contract renewal (for Year 4 of a 10 year agreement). This renewal required the participation of multiple City departments, including DT, who manages the overall agreement. One of the other departments had expected DT to include its share of the value of this contract in its base budget for DT services; however, this did not happen, and neither that department nor DT had the full resources needed for this renewal at the time it was due. Although the Department was able to resolve the problem with the help of other City departments, this incident reveals the weaknesses in DT's contract management system and the potential risks that could present critical financial and/or operational risk to the City.

Under the leadership of the new Strategic Sourcing Manager, the Department has begun creating a spreadsheet of key contract details to help initiate a process for improved management. However, not only is the process for creating this spreadsheet an inefficient use of a manager's time, but the product itself will offer limited capacity for effective ongoing management. The Strategic Sourcing Manager will have limited ability to produce meaningful reports on the status of contracts with information tracked on an Excel spreadsheet. This will continue to impair the

Department's ability to respond quickly and proactively in its oversight of contracts.

A more robust database system, with enhanced reporting and document management functionality, would enable the Department to provide better stewardship over the public dollars funding these contracts. One example of such a system currently used by a City agency is CARBON, the web-based contract management system used by the Human Services Agency. CARBON allows HSA staff and contractors to enter budget information, track invoices, report on expenditures, measure performance outcomes and record all monitoring activities, as well as store all contract documents.

The screenshot below provides an example of the contract information tracked in CARBON, and the side bar shows the various modules for additional management functions.

Exhibit 2.4: Screenshot of HSA's Contract Management System

San Francisco Human Services Agency
[Logout](#)

- Vendor List
- Vendor Contracts
- Contract Documents
- Invoices
- Program Reports
- Program Monitoring
- Account Settings
- Help Center

CONTRACT INFORMATION
Cancel Unlock

ALZHEIMER'S ASSOCIATION - Dementia Care Project in Service to LGBT Seniors/AWD

Contract Name
Dementia Care Project in Service to LGBT Seniors/AWD

Contract Start Date	Contract End Date	Total Not to Exceed
07/01/2016	06/30/2018	\$400,000.00

Program Reports Start Date	Program Reports End Date
07/01/2015	06/30/2018

Solicitation Types	Solicitation number	RFP Date Issued	RFP Expire Year
RFP	707	05/17/2016	2020/2021

Program Area
Department of Aging and Adult Services

Service Type
Community Services

Contract/Grant/Other
 Contract Grant Other Work Order Purchasing

Detailed PSC Information +

PSC
4081-10/11 expires: 6/30/2019

Approval Date	Expiration Date	Prior PSC
3/7/2011	6/30/2019	2001-06/07

Budget Types

Standard
 HUD
 DAAS

Budget Name
Dementia Care Project

DAAS - Meals
 Miscellaneous

Vendor Executive Director

First Name	Last Name
Dr. Elizabeth	Ederly

Phone	Email
4083729900	eedgerly@alz.org

Vendor Fiscal Officer

First name	Last name

Source: Human Services Agency

Although it cost approximately \$250,000 over 2 years to implement this system at HSA, the benefits of improved contract management cannot be understated. For DT, the adoption of a such a system would not only achieve its goal of tracking current contracts but it could provide an

essential tool in developing a contract management program, which currently does not exist, despite prior audit recommendations.

In a memo issued in 2012, the Controller's Office noted that:

Although DT employs basic contract monitoring procedures, such as tracking departments' annual contract payments against estimated allocations..., it needs to do more to ensure effective oversight... It should also formally document its contract monitoring system to ensure consistency in monitoring.

And yet, nearly five years later, the Department has not developed or documented clear contract monitoring policies and procedures. Without consistent guidelines, there is diffuse accountability for contracts that often engage multiple departments and multiple employees at DT, making it difficult to hold vendors responsible for performance, as discussed in *Section 6: PMO Procedures* of this report.

As noted in the Controller's memo, inadequate contract monitoring can have financial and operational consequences, including the potential to pay for work not performed, or not performed to standards. In addition, contracts for critical services may expire and thus renegotiated, risking interruption of support and unnecessary cost escalation.

To address this, DT's Strategic Sourcing Manager has created a multi-phase work plan for his position, which does include the creation of a vendor/contract management program. However, there is no current timeline in place for moving forward.

Contract Monitoring

With over \$280 million in contracts, the Department must ensure that goods and services have been received according to contract requirements. Currently, there is no system in place for contract performance monitoring.

Given the urgency of the need that was identified at least as far back as 2012, the Department should act immediately to begin the development of the contract monitoring program. With the implementation Recommendation 2.1, the Strategic Sourcing Manager would be able to re-prioritize this activity in place of the development of the contracts database.

Recommendation 2.1: The Chief Information Officer should direct the Strategic Sourcing Manager to (1) explore options for implementing a contracts management database, and (2) expedite the development of the Contract/Vendor Management program, in conjunction with the adoption of a new data management system.

DT contracts do not have consistent, standard performance measures

According to the US Office of Management and Budget's "Best Practices for Contract Administration":

Contract administration starts with developing clear, concise performance based statements of work...and preparing a contract administration plan that cost effectively measures the contractor's performance and provides documentation to pay accordingly.

However, DT contracts typically do not contain performance measures, clear deliverables, deliverable timelines or clear cost controls. As a result, there is a lack of accountability in terms of vendor performance, and the Department cannot ensure quality service delivery. As discussed in *Section 6: PMO Procedures*, the Department's contracts lack controls such as schedules and costs. In addition, the Department's contracts do not typically have performance measures.

In our review of sample contracts, we found scopes of work and deliverables for 25% of the contracts. For only one contract was the scope of work and list of deliverables clearly incorporated into the contract, as opposed to an attachment from the Request for Proposals or proposal submission.

Although Department officials contend that the absence of contract performance measures is consistent with industry standards, it is not consistent with government contracting standards. Government contracts typically include scopes of work, schedules for deliverables, performance measures, and not-to-exceed amounts. Given the importance of these technology services to City operations and the value of the services to taxpayers, it is critical that the Department incorporate these elements of contract administration into their agreements.

Recommendation 2.2: The Chief Information Officer should direct the Strategic Sourcing Manager to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.

3 Work Orders

The Department of Technology recovers most of its costs for services and projects through work orders to customers but does not maintain adequate documentation of these work orders, including budgets, delivery timelines, scopes of work, and basis for costs. Approximately half of the project work orders are not documented at all. This practice makes it difficult for managers to adequately plan and prioritize existing and incoming work, and does not comply with the Controller's recommended best practices for interdepartmental work.

Work orders for projects are not consistently and sufficiently documented

IT Pass-thru work orders are used to fund department-specific work efforts that DT has determined cannot be accomplished with baseline funding. Customer costs for IT Pass-thru work orders are project-specific.

DT managers responsible for providing the requested project work with customers to develop a project cost and then submit work order requests to DT Finance to record in the City's financial system. Deputy Directors, program managers, or project managers may be responsible for preparing project work orders. Approximately one-third of project work orders are prepared and finalized during the annual appropriation process in June; however the majority of work orders are requested during the year outside of the budget process, so-called "off-budget" work orders.

The Controller's Accounting Policies and Procedures Manual "strongly" recommends as a best practice that all work orders be documented via a memorandum of understanding (MOU) or interdepartmental service agreement (ISA), and requires such documentation for off-budget work orders. Once work orders are finalized between DT and a City customer, the funds are encumbered and may not be spent until DT bills for work on the project or if the customer cancels the work order, in which case encumbered funds are returned to the customer. At the end of the fiscal year, remaining encumbered funds require Controller approval to be carried-over into the next fiscal year unless they are funded by a customer's continuing project fund.

We interviewed DT financial staff and reviewed DT policies and procedures for work orders and found that DT does not document or individually budget work orders that are finalized during the annual appropriation process. As shown below in Exhibit 3.1, approximately one-third of work orders for department-specific projects (IT Pass Thru work orders), or \$13.3 million of \$39.1 million in FY 2015-16 project work orders, were not documented. Spending amounts, scopes of work, and timelines for such project work orders are determined in telephone, in-person, and other informal exchanges between DT managers and customers and were not available for review for this audit.

Exhibit 3.1: Summary of DT Project Work Orders (\$ millions)

Number of Work Orders	2013-14	2014-15	2015-16
Without budgets	83	92	105
With budgets	160	196	233
Total Work Orders	243	288	338
Amount			
Without budgets	\$8,296,683	\$13,007,816	\$13,325,361
With budgets	9,548,242	26,238,180	25,865,087
Total Amount	\$17,844,925	\$39,245,996	\$39,190,448

Source: Budget and Legislative Analyst review of DT data

For project work orders finalized outside of the annual appropriation process ("off-budget work orders"), DT requires its managers to document project budgets and purpose and provides a template to do so. To further assess the underlying documentation supporting off-budget project work orders, we reviewed a judgmental sample of high-risk work orders that encumbered funds in FYs 2014-15 and 2015-16. The sample consisted of twenty work orders over the two years that had large budgeted expenditures but little actual spending.

Exhibit 3.2: Documentation in Sample of 20 Project Work Orders, FY 2014-15 and FY 2015-16

Documentation	Number Documented	Percent of Total Sample
Budget	8	40%
Timeline	2	10%
Scope of work	8	40%
Background calculations for audit trail	2	10%
Total Funds Encumbered		\$22,300,283
Total Funds Spent		\$6,535,200

Source: Budget and Legislative Analyst review of DT data

As shown above in Exhibit 3.2, the majority of project work orders lack documentation of budgets, timelines, scopes of work, and background budgetary calculations for audit trails (Form D in DT's work order budget template). This is in part because six of the twenty sampled project work orders were finalized during the annual appropriation process and therefore were not documented at all (one of the project work orders sampled was finalized during the annual budget process but had an MOU side letter documenting the project budget, scope, and timeline). However, the information recorded in the remaining portion of the sample was problematic. Although the work order budget template is structured so that budgets may be detailed on a line item basis, such detail was frequently not recorded. In these cases, only total costs for labor and equipment were recorded, without any detail or explanation. Only two sampled project work orders contained an estimated timeline for the requested project work.

In limited cases, the Department signs detailed MOUs with City and other customers to document project work, including scope, timelines, accountabilities, and budgets. These exceptions are noted below in Exhibit 3.3.

Exhibit 3.3: Summary of DT MOUs with customers, FYs 2015-17

Dept.	Scope
CON	Project: eMerge
CON	Services: Database Admin., Procurement, Infrastructure support, Security, and Disaster Recovery
AIR	Services: Baseline DT services, Radio support, Enterprise Agreements
DPH	Service: Baseline DT services, vendor management for VoIP project
COURT	Project work orders
POL	Project work orders: VOIP

Source: Budget and Legislative Analyst review of DT data

DT does not have adequate documentation of project work orders because the department does not have a rigorous process in place to review project work order funding requirements. Project costs are determined by DT managers yet these cost estimates are not reviewed by the DT Finance team. The Department lacks a methodology to determine costs for project work orders and has not established clear criteria for determining whether projects may be accomplished within its baseline budget recoveries. Although the department has developed a template to document off-budget work orders, little detail is recorded in these documents, as noted above. This has resulted in widespread deficiencies in DT’s work order documentation. Of the 626 project work orders in FYs 2014-15 and 2015-16, only 6 had MOUs and 31% had no documentation whatsoever.

Without detailed budgets, timelines, and scopes of work, managers cannot adequately plan and prioritize existing and incoming work. Similarly, DT and its customers may not have a common understanding of a project’s scope, delivery date, or basis for project costs.

Recommendation 3.1: The DT Chief Financial Officer should develop policies and procedures to document (a) line-item budgets, (b) delivery timelines, (c) scopes of work, and (d) basis for costs for all IT Pass Thru work orders, including those finalized during the annual appropriation process. In addition, the CFO should develop clear criteria to determine whether service requests may be accomplished within baseline recovery revenues or require additional funding and incorporate that into the FY 2017-18 service level agreement with customers.

4 Customer Service

The Department of Technology seeks to be a customer-oriented service provider but does not maximize service to City departments. DT's service level agreement with City departments is outdated, and does not align with categories in its new workload management system, ServiceNow. Nor does DT consistently provide the service level agreement to City departments. In addition, DT does not routinely measure customer satisfaction and business needs, despite prior management assessments recommending doing so.

The Department of Technology does not have clear service agreements with customers

The Department of Technology's Strategic Plan emphasizes its goal to be a customer-driven department. According to DT's Strategic Plan, the Department aims to be an "IT partner of choice, not the IT department of mandate." One of the five values statements in the strategic plan is: "Customer First: Make decisions in the best interest of our customers." Services provided by DT to DT customers are governed by DT's service level agreements with departments and managed through ServiceNow, DT's workload management system.

Service Level Agreements

Services provided by DT to City departments are documented in the service level agreement (SLA), describes the various IT services and their associated target service levels. DT's SLA is developed and managed by the Policy and Governance team. DT does not individualize the SLAs by customer. Rather, every department has the same SLA, except for the budget page, which varies by department. If departments require service above and beyond the standard SLA, they may enter into an additional service addendum (also referred to as memoranda of understanding (MOUs)) with departments, as described in *Section 3: Work Orders*.

The most recent version of DT's SLA is from FY 2015-16, which has not been updated for FY 2016-17. According to DT's Policy & Governance staff, DT is working with a consultant to develop a new SLA, but it will not be available in the current fiscal year. City departments must rely on assumptions of service levels from the outdated SLA. In addition, SLAs are only provided to DT customers upon request.

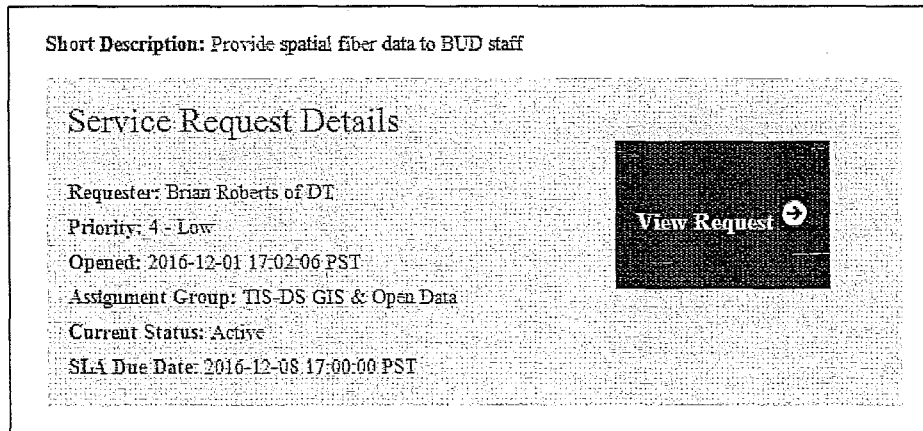
DT's procedures to manage service requests and workload in ServiceNow, DT's workload management system, do not align with procedures listed in the FY 2015-16 SLA. The difference in service request and workload procedures between ServiceNow and the SLA is shown in Exhibit 4.1 below.

Exhibit 4.1: DT's Service Definitions: SLA and ServiceNow

FY 15-16 SLA		ServiceNow	
Request Classification	Definition & Resolution Deadlines	Request Classification	Definition & Resolution Deadlines
High Impact Problems	Problem has a severe impact on the business. It could be a system, process, network or application related outage. Resolution actions start immediately.	Incident	An unplanned interruption or a reduction in the quality of an IT service or a failure of a configuration item (CI) not yet impacting an IT service. Priority 1 Call Back (30 minutes) Priority 1 (8 hours) Priority 2 (24 hours) Priority 3 (3 days) Priority 4 (5 days)
Medium Impact Problems	Significant impact on the business, and no alternative solution (workaround) for the problem can be arranged. Resolution action starts within 4 hours.	Problem	A collection of incidents with common symptoms. Problem Closure - P1 - 30 Days Problem Closure - P2- 40 Days Problem Closure - P3 - 50 Days Problem Closure - P4 - 60 Days
Low Impact Problems	An alternative or workaround solution exists. Resolution action starts within 24 hours.	Service Request	Request from a user to provide a service: (1) A <i>Service Catalog Request</i> is a predefined request that can be selected from the Service Catalog, (2) A <i>Service Request</i> is a request that is not pre-defined. Service Catalog Request resolution (5 days) Service Request - Customer Due Date (<i>Scheduled Work Effort</i>) SLA eMerge - 1 Business Day SLA eMerge- 3 Business Days

Source: Budget and Legislative Analyst review of DT data

When a customer requests service through ServiceNow, they receive an automated email that provides details of their request, including the classification, priority level, date opened, assignment group, status, and SLA due date, as shown in Exhibit 4.2 below.

Exhibit 4.2: Sample ServiceNow Ticket Automated Response

Source: Budget and Legislative Analyst

Because Priority Level is not defined in the SLA, but only in the definitions of ServiceNow, which are not provided to customer departments, when a customer receives this notice that their ticket has been classified as Priority 4 – Low, they do not know Priority 4 means or why it was classified this way. They can infer that the SLA response time for this service request is 7 days (or 5 business days) based on the ticket opened and SLA due dates. But they are likely unaware of the scale which Priority 4 lies on— for example, Priority 4 could be low on a scale of 1-5 or midrange on a scale of 1-10.

Scheduled Work Efforts

DT created a workaround for requests for assistance that do not fit into either the old SLA service definitions or the ServiceNow definitions that were built into the platform. “Scheduled work efforts” describe service requests that could not be completed by the timelines set forth in ServiceNow (generally five days). Scheduled work efforts are reviewed by DT management, and an agreed upon timeline is developed by DT managers and the requesting client department.

While this customized response makes sense for many requests, there are no definitions or guidelines pertaining to scheduled work efforts in the current SLA that would describe this process to client departments. DT management reports that further guidance related to scheduled work efforts will likely be included in the next SLA; however none currently exists.

Recommendation 4.1: The Chief Information Officer should direct the Deputy Director of Client Services to reconcile and develop interim documentation of its SLA and ServiceNow procedures for FY 2017-2018. This documentation should be distributed to all DT customers when it is available.

DT could improve its customer satisfaction

DT's need to measure customer satisfaction has been noted in prior management assessments. The San Francisco Civil Grand Jury report titled *Unfinished Business: A Continuity Report on the 2011-12 Report, Déjà Vu All Over Again* recommended DT conduct a user satisfaction survey by the end of calendar year 2015, and a follow-up survey six months later, by the end of FY 2015-16. In their official responses to the Civil Grand Jury, both DT and the Mayor's Office agreed that the recommendation would be implemented in the future, including an initial survey by the end of calendar year 2015 and a follow-up survey by the end of FY 2015-16.

In December 2015, DT administered a user satisfaction survey that contained three questions, the results of which are presented in Exhibit 4.3 below. The department did not conduct a follow-up survey in the six months timeframe recommended by the civil grand jury was never conducted. Instead, DT hired an IT consulting firm to conduct structured interviews of nineteen customer departments, chosen based on IT expenditures. The interviews informed the Shared Services Forum, discussed below.

Exhibit 4.3: DT User Satisfaction Survey Responses, December 2015

Question #1	:)	:	:(
Overall, how do you feel about DT services?	33%	47%	20%
Question #2	Absolutely	Maybe	No
How likely are you to recommend our services to another department or colleague?	31%	49%	31%
Question #3			
Please tell us more about your experience and share suggestions for improving the services we provide to you and your department.	<i>Open-ended responses</i>		

Source: DT User Satisfaction Survey, December 2015

As shown above, only 33% of respondents reported they were happy with DT's services, and 31% reported that they would recommend DT's services to another department or colleague.

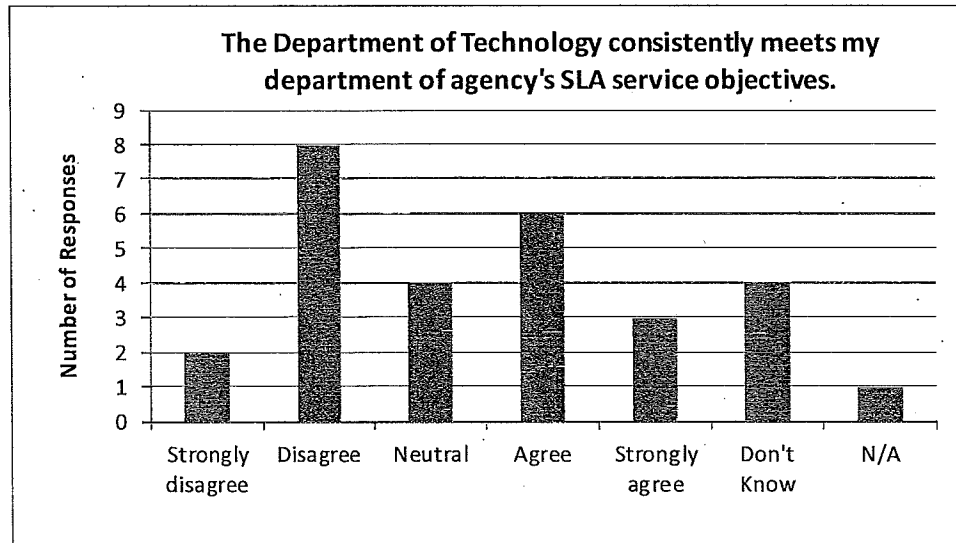
Themes from the open-ended written survey responses include:

- Client department unsure of process; lack of communication
- Slow or not very responsive
- DT not taking user experience into account
- Inability to get firm dates or a project plan
- Departments do not understand what they are paying for
- Lack of trust in the department overall

Budget & Legislative Analyst Customer Survey, March 2017

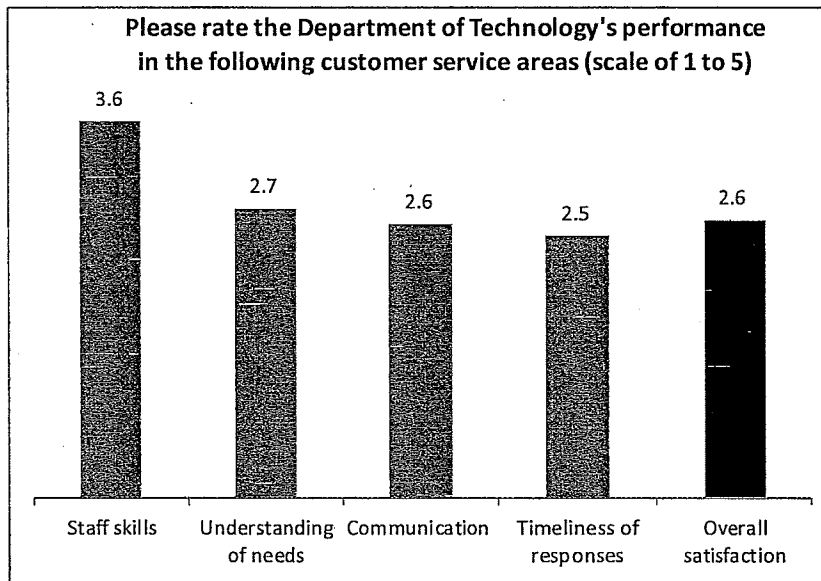
Of the 29 departments responding to the Budget and Legislative Analyst’s customer survey, 10 departments (34%) reported disagreeing or strongly disagreeing with statements of satisfaction when asked about DT’s ability to meet their SLA service objectives, 4 departments (14%) reported feeling neutral, and 9 departments (28%) reported agreeing or strongly agreeing with this statement, as shown in Exhibit 4.4 below.

Exhibit 4.4: Customer Satisfaction with Service Level Agreements



Source: Budget and Legislative Analyst survey of DT customers, March 2017

On a scale from 1 to 5, all areas of customer satisfaction including, understanding of department’s needs, timeliness in responding to requests for assistance, and communication regarding outstanding requests, scored between 2.5 to 2.7, except staff skills and abilities, which scored 3.6. This suggests client departments rate DT as above average when they actually receive the assistance they request, but only average in communicating and responding to service needs.

Exhibit 4.5: Average Rating of Customer Service Areas (Scale of 1-5)

Source: BLA Customer Survey, March 2017

Common themes in written comments included:

- Lack of communication about schedule/timeline of requests (tickets and projects)
- Lack of accountability
- Lack of understanding of departmental needs, need to focus more on customers
- Good technical expertise when you get to that point in the process
- Insufficient SLAs, lack of knowledge of what services DT provides
- Small departments need more support since they do not have their own IT teams
- DT offers services before they are ready for primetime, which can lead to a difficult process for both DT and its clients.

According to DT, the Department plans to adapt Service Now to acquire customer feedback for each ticket so that the Department has a better informed and real-time understanding of its customer satisfaction and areas in need of improvement.

Shared Services Forum to Provide Department Feedback

The Shared Services Forum is a new customer advisory board intended to provide a forum for formally collecting stakeholder input to inform DT's provision of shared services, or services that affect multiple City departments. The process is managed by DT's Deputy Director of Client Services. Shared Services Forum members provide input, recommend investment priorities, review Service Level Agreement data, and escalate chronic or critical service delivery issues. It is intended to provide a

structured environment that meets regularly, where transparency and communication are critical components.

The Forum consists of 11 customer member departments that serve one-year terms. New members can be approved by a majority vote. The current members as shown in Exhibit 4.6 below.

Exhibit 4.6: Shared Services Forum Members

Human Services Agency	Municipal Transportation Agency	City Planning
Department of Public Health	Treasurer-Tax Collector	Police Department
City Administrator	Controller	Fire Department
Recreation & Park Department	Department of Public Works	

These departments (with the exception of the Fire Department and Public Works) are frequent users of DT's services.

Vacancies in the Client Engagement Office

DT has a Client Engagement Office within the Project Management Office & Client Services Division consisting of two positions: a Client Manager and a Senior Business Analyst. The positions are responsible for client engagement, service delivery, and vendor relationship management. Key responsibilities of this unit include: analyzing, anticipating and shaping customer needs, negotiating and setting customer service level expectations, handling complaints and improving customer satisfaction, among others.

However, vacancies and turnover in the Client Engagement Office prevent the office from providing services. The Client Manager position has been vacant since its creation and the Senior Business Analyst position was vacant most of FY 2016-17. There is no active recruitment for the vacant positions.

Department management have identified the negative effects of vacancies in the Client Engagement Office, including: inconsistent and inefficient intake of business requests and lack of communication with customers. Project managers from the Project Management Office have informally assumed some of the tasks of the Client Engagement Office.

Although DT states it is in the process of restructuring its Client Engagement Office, in the interim, DT needs to fill the vacant Client Manager position.

Recommendation 4.2: The Chief Information Officer should prioritize filling vacant budgeted positions in the Client Engagement Office.

5 Project Management Office Role

The Project Management Office (PMO) does not have a clearly defined role in the Department of Technology, impairing its ability to effectively carry out projects. DT invests nearly \$2.0 million annually in the PMO, but has not maximized the PMO's usefulness. The CIO needs to strengthen the PMO's mission statement, ensure adequate technical staffing to projects managed by the PMO, and direct the Deputy Director for Client Services to develop procedures for PMO oversight of non-PMO project managers and vendors.

The Department of Technology has not clearly defined the role of the Project Management Office

The Department of Technology (DT) created the Project Management Office (PMO) in the FY 2013-14 budget to provide project management to high priority projects. According to DT's memorandum to the Budget and Legislative Analyst in June 2013, creation of the PMO would result in projects that would be "more successful, more predictable, more reliable, better tested, communication will be clearer."

Since creation of the PMO in FY 2013-14, DT has not ascribed a mission statement to the office. A mission statement determines an organizational direction, provides clarity and vision, and informs goals for an organization. Rather, DT has given the PMO a functional definition, which only describes an operational role. DT's Strategic Plan articulates the PMO's purpose statement as the following:

"The Project Management Office (PMO) improves the predictability of positive outcomes through consistent use of tools and process. The PMO ensures that stakeholders are informed of progress in a timely manner, ensures the quality of project work and the responsible use of project funds."¹

The absence of a mission statement that clarifies the aims and values of the PMO can result in impediments to the project managers to effectively manage projects, as project managers are not sanctioned with essential authority to oversee and marshal the appropriate resources and staff.

For example, PMO project managers do not currently have sufficient authority to oversee software vendor selection. The PMO project manager job description states that the project manager should select and negotiate the software vendors and integration partners. As part of our review, we selected three sample projects to examine in further detail. One of these projects, the iSeries Decommission, has a network accessibility issue created on February 2, 2017, that states that a client

¹ Department of Technology Strategic Plan 2016-2020

department conducted an analysis which resulted in rejecting the listserv² vendor intended for the City and sought out its own vendor for a stand-alone solution. While the PMO is a client servicing entity, the ability for departments to reject and switch vendors inhibits the ability of project managers to carry out their job responsibilities. Such impediments to PMO project manager authority can be attributed to the lack of clarity in the role of the PMO in DT and citywide.

The PMO project manager job description also includes the coordination of the work of multidisciplinary staff which may cross more than one department, technical and functional areas, and managing the performance of project staff, including contractors and City and County employees.³ However, a common and consistent refrain in interviews with all PMO staff has been the challenges in getting technical Department of Technology staff assigned to projects, which has resulted in project delays.

As part of our analyses, we conducted a benchmarking review of comparable jurisdictions' project management offices. An example of a strong definition for a project management office can be found in the City of Philadelphia's Office of Innovation and Technology, which states the following:

"The PMO centralizes, oversees, and coordinates the project planning, development, implementation, execution and control, resource scheduling, reporting project status to both internal and external stakeholders, coordinating with other agency project managers, and negotiates priorities and resources with Office of Information Technology managers."

A mission statement like the City of Philadelphia's project management office would serve the PMO well in its ability to effectively execute projects, marshal resources from operational staff, and grant project managers with the authority to carry out their job duties effectively. The results of our customer survey show that more than one-quarter of respondents (28%) rated the PMO either Poor or Below Average, in its ability to marshal appropriate resources, as shown in Exhibit 5.1 below. A mission statement like the Philadelphia's project management office would align the PMO's intention with the job duties of its staff and clarify its role within the Department of Technology and to its customers.

² A list serve is an application that distributes messages to subscribers on an electronic mailing list

³ Project Manager job description includes the following responsibilities: preparing and monitoring the project budget, including occasionally obtaining funding and controlling project costs; project design and system architecture/infrastructure planning; developing and implementing strategic and change management planning; directing or managing the development of technical and functional requirements; selecting and negotiating with software vendors and/or integration partners; coordinating the work of a multidisciplinary staff which may cross more than one department, technical, and functional areas; managing the performance of project staff, including contractors and City and County employees; developing training plans for project staff during development and for all users at implementation; managing eventual deployment of the new system; and may require working extensively with contractors, City and County departments and boards and commissions.

Exhibit 5.1: Summary of Customer Ratings of PMO Performance

Answer Options	Planning of projects	Transparency in billings	Project timeliness	Ability to marshal appropriate resources	Ability to manage vendors
Poor	21%	14%	21%	14%	10%
Below Average	7%	7%	17%	14%	14%
Total Below Average/ Poor	28%	21%	38%	28%	24%
Average	21%	21%	7%	17%	14%
Above Average	3%	7%	10%	7%	3%
Excellent	3%	0%	0%	0%	0%
Total Average or Above	28%	28%	17%	24%	17%
N/A	45%	52%	45%	48%	59%
Total	100%	100%	100%	100%	100%

Source: Budget and Legislative Analyst's Office survey of city departments

Projects Not Managed by the PMO

Many of DT's projects are not managed by PMO project managers. From a list of 47 projects exported from Project Online, DT's project management system, on March 31, 2017, 14 or 30% of projects are not managed by PMO project managers. Of the 17 project managers listed on Project Online, nine or 53% of the project managers are not PMO employees but instead vendors or other DT staff. The PMO has stated that it does not provide any oversight for or manage these nine project managers who are not PMO employees. This poses a risk to the City as there is no process of formal accountability for these projects.

To illustrate this risk further, we examined the projects managed by these nine non-PMO staff project managers. Project Online categorizes projects into their project impact: citywide, a few departments, and one department. Of the 17 projects with citywide impact, five are not managed by PMO project managers. These projects are the Identity and Access Management, ITSM ServiceNow Implementation, Cisco Enterprise Agreement, Connectivity Plan Phase 2 and 3, and the Dig Once Implementation. As major projects that have large impact, it is a risk to the City that these projects are not managed by PMO project managers or answering to the PMO. While these may require specialized knowledge to effectively manage these projects, there should be oversight provided by the PMO on these projects as the PMO reports on the status of these projects Citywide.

Exhibit 5.2: List of Projects Not Managed by PMO Project Managers

Project	Scope
Cisco Enterprise Agreement	Citywide
Connectivity Plan Phase 2 and 3	Citywide
Dig Once - Implementation	Citywide
Identity and Access Management	Citywide
ITSM ServiceNow Implementation	Citywide
800MHz Radio Replacement Project	Few Departments
DT Connectivity Explorer	Few Departments
Radio Site Security Project	Few Departments
VA Site Relocation Project	Few Departments
Data Center Services - Operations Activities	One Department
Jerrold Move Public Safety staff and equipment	One Department
Network Operations (DRAFT - Proof Of Concept)	One Department
ServiceNow for Public Health (DPH)	One Department
Startup in Residence 2017	Not Stated

Source: Project Online list of projects, exported March 31, 2017

Strengthening the Role of the PMO

When DT created the PMO in FY 2013-14, the PMO was envisioned not only as a tool to better manage high priority projects but also as a “Project Management Center of Excellence” overseeing all complex City IT projects. The Board of Supervisors approved a Deputy Director position, reporting directly to the CIO, to oversee the implementation of the PMO. However, DT never hired a Deputy Director for this purpose, but rather, reassigned the position in the FY 2014-15 budget to the Operations and Infrastructure Division.⁴

DT invests nearly \$2.0 million annually in the PMO (the FY 2016-17 budget is \$1,966,156), but has not maximized the PMO’s usefulness. The CIO needs to strengthen the PMO’s mission statement, ensure adequate technical staffing to projects managed by the PMO, and clarify policies for management of projects that are not managed by PMO project managers.

Recommendation 5.1: The Chief Information Officer should (1) direct the Deputy Director for Client Services to rewrite the PMO mission statement to strengthen the PMO’s defined role, (2) direct the Deputy Directors for DT’s four divisions to write procedures for assignment of technical staff to PMO projects, and (3) direct the Deputy Director for Client Services to develop procedures for PMO oversight of non-PMO project managers and vendors.

⁴ The project management offices for the technology departments in the cities of Denver, San Jose, and Philadelphia report directly to the CIO, according to our survey of other cities.

6 Project Management Office Procedures

The Project Management Office does not consistently plan for and define the scope of IT projects, which may result in significant project changes and corresponding project delays and/or cost increases. The PMO also does not have sufficient procedures to assign resources to projects or to track project timelines and budgets.

The Project Management Office needs to better plan for and monitor projects to prevent project delays

Project Definition

The Project Management Office defines a project as: having more than 160 hours of effort, touching multiple stakeholders within the Department of Technology and the City and therefore required more coordination, and having “some level of complexity in nature.”

The PMO would benefit from a more detailed definition, such as the following definition developed by the Project Management Institute¹, which more specifically defines a project as a temporary endeavor undertaken to create a unique product, service or result.²

A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources. And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. So a project team often includes people who don't usually work together – sometimes from different organizations and across multiple geographies. The development of software for an improved business process, the construction of a building or bridge, the relief effort after a natural disaster, the expansion of sales into a new geographic market — all are projects. And all must be expertly managed to deliver the on-time, on-budget results, learning and integration that organizations need.

Not all projects managed by the PMO meet this definition. For example, In the Budget and Legislative Analyst's detailed review of three PMO projects³, we found that one of the projects – iSeries Decommission - does not meet the definition of a project. The PMO assumed management of the iSeries Decommission, which is part of the broader City transition to Office 365 and includes the decommissioning of physical servers, when the PMO was formed. The PMO did not develop a project scope and work plan for the iSeries Decommission, which lacks a budget and timeframe

¹ The Project Management Institute develops standards and conducts research and education on project management nationally.

² <https://www.pmi.org/about/learn-about-pmi/what-is-project-management>

³ These projects were (1) iSeries Decommissioning, (2) 311 Contact Center Upgrade, and (3) Upgrade the Network.

and is worked on when the assigned project manager has time to do so. Work on the iSeries Decommission is not charged to a specific customer.

Project Planning

City departments do not consistently consider the PMO’s planning of projects to be sufficient. According to the Budget and Legislative Analyst’s survey of DT customers, more than one-quarter of City departments responding to the survey (28 percent, or eight of 29 responding departments) considered the PMO’s planning of projects to be below average or poor, as shown in Exhibit 6.1 below.

Exhibit 6.1: City Department Survey Results on PMO Project Planning

Answer Options	Planning of projects
Poor	21%
Below Average	7%
Total Below Average/ Poor	28%
Average	21%
Above Average	3%
Excellent	3%
Total Average or Above	28%
N/A	45%

Source: Budget and Legislative Analyst Survey

In the open-ended responses to the Budget and Legislative Analyst’s survey, several responses referenced project planning:

- “Getting more input from the client department early and throughout the project. I think this would help DT understand all the constituencies who might be affected by a project or initiative.”
- “Better forecast of project scope/time duration”
- “Develop a plan and secure on time. When developing maintain the customers requirement and needs as the priority”

In the Budget and Legislative Analyst’s detailed review of three PMO projects, the iSeries Decommissioning project did not plan for the privacy requirements of four City departments, resulting in project delays as these four departments do not want to switch over to Office 365. Delays in implementation with these four departments could result in the lack of technical support for these departments’ email service. DT chose not renew the contract for iSeries support with IBM in September 2016, resulting in lack of continuity of email services to these four departments.

Recommendation 6.1: The Chief Information Officer should direct the Deputy Director for Client Services to (1) develop more detailed formal protocols on project definition, planning and scope, including working with clients on project scope, and (2) train and evaluate project managers on implementation of these protocols.

Project Staffing

The PMO needs better procedures to assign staff resources. The PMO provided a Visio map of its project management procedures. In section "2.0 Planning," the procedures state that the project manager should create the project team, timelines, and budgets. According to the procedures, project managers should work with operational managers to do this.

Expanding upon the project managers' planning process, the PMO Manager stated that

"Project managers work in conjunction with resource managers to negotiate for resources, and rebalance the work accordingly based on availability of staff, skills, strategy priority set by the CIO, technical dependency. On a weekly basis we have a meeting with Service Delivery and PMO, in there we agree on upcoming tasks in the next 2 weeks and who will be doing the work for those tasks. PMs track those resource assignments."

The Department of Technology does not have sufficient tools for assigning technical staff to projects managed by the PMO. Currently, the Department of Technology has a timekeeping system Ontrac. However, as discussed in *Section 1: Charges to City Departments for Services*, Department staff are not consistently entering time into the system, and the system is not used to manage project resources. Because not all staff time is tracked or planned, the Department does not know availability of operational staff to contribute to projects. Furthermore, there are no links between the existing timekeeping system and Project Online's resource management module, which shows the amount of time a project manager allocates to a project. There are no policies that allow for reconciliation of time in Ontrac and Project Online, and according to all staff interviews, no reconciliation occurs.

The lack of tools to identify technical staff availability for projects, and assign and track staff hours to results in delays in project delivery. For example, while interviews with staff have consistently repeated that insufficient staffing has caused project delays, the Department of Technology's current time keeping practices makes it impossible to determine if insufficient staffing is the cause. As noted above, in our survey of the Department of Technology customers, 28 percent of 29 responding departments rated "ability to marshal appropriate resources" as Poor or Below Average and 38 percent of 29 responding departments

rated the PMO's project timeliness as Poor or Below Average, as shown in Exhibit 6.2.

Exhibit 6.2: City Department Survey Results on Assigning Resources to Projects and Completing Projects On Time

Answer Options	Project timeliness	Ability to marshal appropriate resources
Poor	21%	14%
Below Average	17%	14%
Total Below Average/ Poor	38%	28%
Average	7%	17%
Above Average	10%	7%
Excellent	0%	0%
total Average or Above	17%	24%
N/A	45%	48%
Total	100%	100%

Source: Budget and Legislative Analyst's Office survey of city departments

Recommendation 6.2: The Chief Information Officer should direct DT's Deputy Directors to (1) require that all staff time is entered into a time management system in order to track all staff work, not just work billed to IT Pass-thru work orders, as noted in 1.2 of this report; and (2) reconcile timekeeping records with Project Online records monthly.

Project Budget Management

According to its job description, one of the responsibilities of the Information Technology Project Manager position is to prepare and monitor the project budget, including occasionally obtaining funding and controlling project costs. While PMO project managers prepare the project budgets, they do not monitor expenditures, remaining balances, or deliverables. The Department of Technology's Finance Division's Accounts Payable policies state that invoices should be routed to Senior Managers or Program Managers, but it does not mention routing to PMO project managers and all project managers have stated they do not receive, track, or monitor invoices and finances systematically.

In order to effectively manage a project, project managers should be aware of expenditures, remaining funds, and status of services and equipment. Project managers are the control for these expenditures as they have created the budgets, and the absence of their approval runs the risk of inappropriate funds being expended on projects and/or vendors are delivering inadequate services. Furthermore, if invoices are not delivered to project managers, there is no systematic tracking of the

status of equipment delivery and other services for projects to know whether a project is truly on time or that the correct services were rendered. They are unable to report on remaining expenditures of their funds in real time. Thus, the lack of PMO project manager approval or review creates a high risk of fraud or delays in project completion.

Recommendation 6.3: The DT Chief Financial Officer should work with the Deputy Director for Client Services to revise Finance Division guidelines to require that invoices be routed to project managers for approval.

Recommendation 6.4: The Chief Information Officer should direct the Deputy Director for Client Services should revise PMO project guidelines to require project managers to manage budgets.

Use of Project Online to Monitor Projects

A reporting instrument should reflect accurate data and information to be effective. Section 3.1.3 of the Department of Technology Strategic Plan states that the PMO will “continue to mature and expand IT PMO standards for full adoption and provide visibility through real-time status reporting.” The Strategic Plan further explains that

“this initiative will be successfully completed when the Project Management Office is consistent in the sequencing, prioritization, and IT execution of projects through the use of our standard tools, when the PMO provides meaningful project information to stakeholders to help support their decisions, and when the PMO is viewed as a Center of Excellence that clients come to for citywide PMO needs.”

In order to provide meaningful project information to customers and users, Project Online should reflect accurate and complete information. While Project Online shows the amount of time a project manager allocates to a project, this allocation is not regularly reconciled with time charges in the timekeeping system, as noted above. Not all project information is entered into Project Online. Budgeted and actual expenditures are not always included, and charters (which define the project purpose, objectives, assumptions and constraints, preliminary scope statement, known risks, deadline, milestones, budget and other project information) are not fully filled out. Furthermore, estimated project costs do not specify dates or a fiscal year. Project Online is still in nascent stages, but there should be greater efforts to fill out all fields.

Furthermore, the PMO does not have sufficient management control over changes to projects in Project Online. At this time, any changes in Project Online do not require any PMO management approval. Project managers can make changes at will, subject only to the client approval. PMO

management reports on the details of projects in its executive status report, but does not have real oversight over project changes.

Project Online utilizes a color system to report on the status of project resources, schedule, cost and scope to executives across the City. These colors are red if the variance is greater than 10 percent, yellow if 5 percent, and green otherwise. These colors are inputted manually by project managers and do not draw upon project data. For example, in our review of the 311 Contact Center Upgrade project, the status report of the project was not based on a timeline but rather on the customer's request to be marked yellow. Based on the project timeline, the status code should have been green. Thus, there is an inconsistent use of the color coding and signaling across the City and degrades the usefulness of Project Online and a project management tool. In addition, Department of Technology customers, who rely on project managers to understand the status of their projects, must make inquiries to various Department of Technology staff to obtain basic project information rather than having it centralized at the PMO.

There is an absence of accountability for project changes. The true status of projects can be obfuscated by manual changes. Budget amounts, time allocations, and schedules can be changed without PMO managerial review.

Recommendation 6.5: The CIO should direct the Deputy Director for Client Services to implement Project Online controls, including (1) defining appropriate use of data for and reporting on color-coded status reports; (2) requiring approval by the PMO manager for project changes that exceed a threshold defined by the PMO.

The PMO does not consistently incorporate standard project controls into contracts with vendors

Standard contracting practices include a schedule for project deliverables to hold vendors accountable and language regarding consequences for delays. Contracts should have standard indemnification clauses holding the vendor responsible for any increased costs due to delays caused by the vendor. However, the Statements of Work (SOW) for various projects under the PMO do not have consistently had these controls. For example, the SOW with a vendor for the 311 Contact Center Upgrade does not have any schedules or costs controls. Similarly, the SOW for another project reviewed, the Upgrade the Network Project, includes a pricing table⁴ but lacks a contract not-to-exceed amount. The SOW also does not include any project dates but only states that:

⁴ Part 9 (page 30) shows pricing table

“The Services will be provided on dates that are mutually agreed to between [vendor] and Department of Technology and confirmed by [vendor]. [Vendor] agrees to provide Department of Technology’s Project Manager a minimum of seven (7) business day’s prior written notice to request a change to the delivery schedule.”⁵

When seeking details on the project schedule from the PMO, the Budget and Legislative Analyst was directed to the schedule in Project Online, the PMO’s database and management tool for projects. However, the schedule on Project Online can be edited without reference to the original schedule, making it impossible to quickly assess whether and by how much a project is delayed. A more binding schedule should be prepared and formalized as a separate document, as without this, the PMO faces difficulty in enforcing action on the vendor’s part and management lacks effective tools to assess the changes in schedules and delays.

The SOWs on the Contact Center Upgrade and Upgrade the Network projects also lack consequences for any failures of the vendor to meet the schedule. Without contract provisions of not-to-exceed amounts and schedules, vendors are not held accountable for any delays or unnecessary spending, and the PMO is unable to effectively control project costs.

Furthermore, some contract provisions hold the PMO liable for the costs of delays. Language in the SOW places responsibility for delays on the Department of Technology:

“Where applicable, Customer’s Site shall be ready prior to the date scheduled for [vendor] to perform the Services. Costs associated with Customer’s failure to (1) make the Customer Site ready (as determined by [vendor]); or (2) meet any of the other responsibilities specified in this SOW shall be billed at [vendor]’s then-current time and materials rates plus travel and other related expenses. Any additional costs incurred by Customer as a result of delays shall be the sole responsibility of the Customer.”⁶

The inability of the PMO to enforce scheduling, work and costs may contribute to client dissatisfaction. Based on our survey of client departments as shown in Exhibit 6.3 below, nearly one-quarter of clients (24.1 percent) were dissatisfied with the PMO’s delivery.

⁵ Part 6 (p. 29) Schedule of Performance

⁶ Part 3 Assumptions of the SOW #1495 JR En Pointe (p. 24) – WLAN Professional Services

Exhibit 6.3: Summary of Survey Results on Project Management Office Services

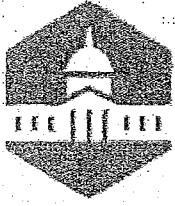
Overall, how satisfied are you with the services of DT's Project Management Office?		
Answer Options	Response Percent	Response Count
Very dissatisfied	17.2%	5
Somewhat dissatisfied	6.9%	2
Percent dissatisfied	24.1%	7
Neutral	20.7%	6
Somewhat satisfied	10.3%	3
Very satisfied	6.9%	2
Percent satisfied or neutral	37.1%	11
Not applicable (N/A)	37.9%	11

Source: Budget and Legislative Analyst Survey of DT customers

Recommendation 6.6: The CIO should direct the Deputy Director for Client Services to work with the Strategic Resourcing Manager to implement Recommendation 2.3 to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.

7. Conclusion

The Department of Technology is an internal service provider of information technology for City departments. Although DT staff technical skills were rated highly in a survey of customer departments, DT customers would benefit from the Department having additional policy and consistency regarding charges for services and projects as well as customer services processes. The Department's contract management procedures pose financial and operational risk to the City. Finally, the purpose and authority of DT's Project Management Office needs to be better defined in order for that Office to effectively manage City IT projects. The sixteen recommendations in this audit will help DT formalize its existing practices and bring those practices into alignment with best practices. These recommendations may be implemented without exceeding the Department of Technology's current budget plan.



SAN FRANCISCO
DEPARTMENT OF
TECHNOLOGY

May 31, 2017

Severin Campbell
Director
Budget and Legislative Analyst's Office

RE: Performance Audit of the Department of Technology

Dear Ms. Campbell:

Thank you for the opportunity to review the draft of the Performance Audit of the Department of Technology. I appreciate your willingness to make revisions based on our feedback at the May 10, 2017 exit conference. We value the open dialogue.

We have completed the attached Recommendations Response Matrix for inclusion in the final report. As you are aware from the discussion during our exit conference, the Department agrees with twelve of the sixteen recommendations. Of the remaining four, please refer to our comments in the attached response table.

I appreciate the transparent exchange of information that occurred during this Performance Audit. It has provided opportunities for learning, organizational evaluation and systematic improvements. I commend the Audit Team for their sustained efforts in conducting comprehensive research and assessment. I look forward to implementing the recommendations with which the Department concurs.

Sincerely,

A handwritten signature in cursive script that reads "Kenneth A. Bukowski".

Kenneth A. Bukowski
Interim Director, Director of Technology

cc: Naomi Kelly

Recommendation from BLA	Response	Comments
<p>Recommendation 1.1: The SFDT Chief Financial Officer should evaluate SFDT’s service catalogue for services that may be more equitably billed on a variable basis to customers and adjust cost recovery to variable charges where appropriate.</p>	<p>Agree</p>	<p>The following actions are underway: SFDT is undergoing a comprehensive review of services and rates. SFDT is working on a new rate guide and will first present it at the Shared Services Forum, DT’s customer advisory group, for feedback before rolling it out to all City departments.</p>
<p>Recommendation 1.2: In addition, the Chief Information Officer should direct the Department’s Deputy Directors to expand the use of SFDT’s existing time management system to track all staff work, as detailed in Recommendation 6.2.</p>	<p>Partially Agree</p>	<p>SFDT will sunset use of the department-specific time management system (OnTrac), in favor of using the time management program within the City’s PeopleSoft payroll system. We will increase staff use of the time management system.</p>
<p>Recommendation 1.3: The Chief Financial Officer should conduct a true- up analysis of its 081CI recoveries during its preparation of the six month Budget Status Report and adjust service rates to minimize over or under collection.</p>	<p>Partially Agree</p>	<p>The Department will continue to conduct analyses of its recoveries and expenditures at the time of the six-month budget status reports, as it has done in the past. In the case where expenditure savings may lead to surplus recoveries, the Department believes decisions as to whether any potential surplus should be used to reduce rates in the current year or to cover one-time expenditures and moderate rates in future years should be made in consultation with other stakeholders. The Department does not expect to raise rates to cover under collection except under some emergency circumstance, and would only do so in consultation with stakeholders.</p>
<p>Recommendation 1.4: As SFDT updates its Service Level Agreement with customers, the Chief Financial Officer should prepare more detailed explanations of SFDT’s billing procedures, detail services provided to customers, the basis for their costs, and incorporate this additional information into the new Service Level Agreement.</p>	<p>Agree</p>	<p>SFDT is working on a new rate guide and will present it at the Shared Services Forum for feedback before rolling it out to all City departments. This detailed information will then be incorporated into the updated Service Level Agreement with departments.</p>
<p>Recommendation 2.1: The Chief Information Officer should direct the Strategic Sourcing Manager to (1) explore options for implementing a contracts management database, and (2) expedite the development of the Contract/Vendor Management program, in conjunction with the adoption of a new data management system.</p>	<p>Agree</p>	<p>SFDT will explore use of contract and supplier management features in the City’s new PeopleSoft Financial System coming on line July 2017.</p>

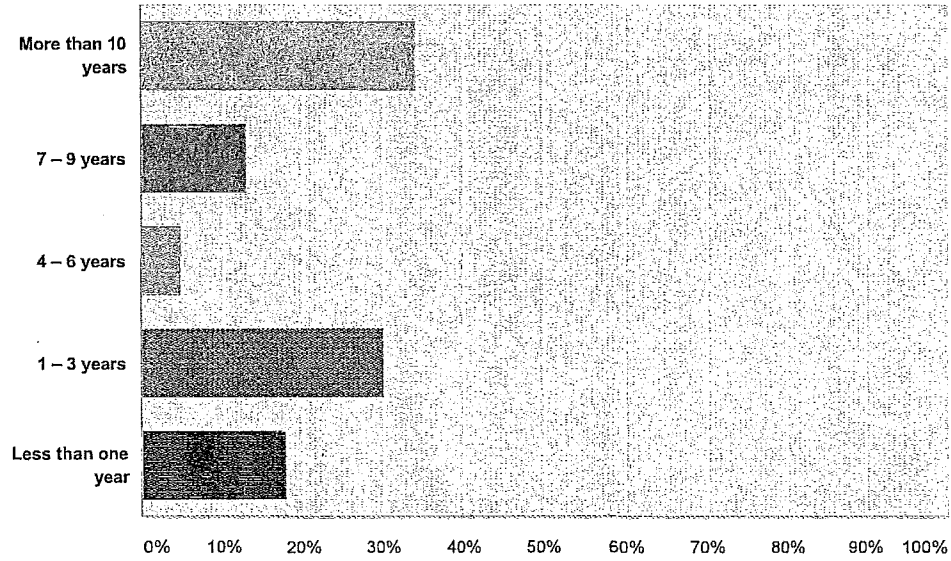
<p>Recommendation 2.2: The Chief Information Officer should direct the Strategic Sourcing Manager to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.</p>	<p>Agree</p>	<p>SFDT is in the process of developing a policy on contract development that will reflect features of the new PeopleSoft Financial System by September 30, 2017.</p>
<p>Recommendation 3.1: The SFDT Chief Financial Officer should develop policies and procedures to document (a) line-item budgets, (b) delivery timelines, (c) scopes of work, and (d) basis for costs for all IT Pass Thru work orders, including those finalized during the annual appropriation process. In addition, the CFO should develop clear criteria to determine whether service requests may be accomplished within baseline recovery revenues or require additional funding and incorporate that into the FY 2017-18 service level agreement with customers.</p>	<p>Agree</p>	<p>SFDT is drafting new policies and procedures that incorporate the Audit suggestions. They will be compatible with the Controller's new PeopleSoft Financial System by September 30, 2017.</p>
<p>Recommendation 4.1: The Chief Information Officer should direct the Deputy Director of Client Services to reconcile and develop interim documentation of its SLA and ServiceNow procedures for FY 2017-2018. This documentation should be distributed to all SFDT customers when it is available.</p>	<p>Agree</p>	<p>The SFDT's current Strategic Plan calls for a revised online SLA and catalog by the end of this fiscal year. Changes will include reconciliation with ServiceNow. It will be released to departments at the beginning of FY 17/18.</p>
<p>Recommendation 4.2: The Chief Information Officer should prioritize filling vacant budgeted positions in the Client Engagement Office.</p>	<p>Agree</p>	<p>Plans are in place to fill one Client Engagement position by the end of FY 16/17. A second vacant position is targeted to be filled by the end of Q2 FY17/18.</p>
<p>Recommendation 5.1: The Chief Information Officer should (1) direct the Deputy Director for Client Services to rewrite the PMO mission statement to strengthen the PMO's defined role, (2) direct the Deputy Directors for SFDT's four divisions to write procedures for assignment of technical staff to PMO projects, and (3) direct the Deputy Director for Client Services to develop procedures for PMO oversight of non-PMO project managers and vendors.</p>	<p>Partially Agree</p>	<p>A revised mission statement to define and strengthen the PMO's role will be developed and communicated by the end of Q1 FY 17/18.</p> <p>The CIO and Deputy Directors will research and discuss the most effective way to utilize technical staff on projects which are assigned to the PMO and write procedures to reflect the agreed upon protocols by the end of Q1 FY 17/18.</p> <p>The department will consider the 3rd recommendation as part of the mission statement rewrite process to be undertaken during Q1 FY 17/18.</p>

<p>Recommendation 6.1: The Chief Information Officer should direct the Deputy Director for Client Services to (1) develop more detailed formal protocols on project definition, planning and scope, including working with clients on project scope, and (2) train and evaluate project managers on implementation of these protocols.</p>	<p>Agree</p>	<p>More detailed formal protocols on project definition and scope definition and planning will be developed by the end of FY 16/17.</p> <p>The PMO will complete planned training and PM evaluation on these protocols by Q2 FY 17/18.</p>
<p>Recommendation 6.2: The Chief Information Officer should direct SFDT's Deputy Directors to (1) require that all staff time is entered into existing time management system (Ontrac) in order to track all staff work, not just work billed to IT Pass-thru work orders, as noted in 1.2 of this report; and (2) reconcile Ontrac timekeeping records with Project Online records monthly.</p>	<p>Agree</p>	<p>SFDT will sunset use of the department-specific time management system (OnTrac), in favor of using the time management program within the City's PeopleSoft payroll system. By the end of Q1 FY 17/18, we will begin monthly reconciliation of PeopleSoft timekeeping records for staff who already track at the project level with Project Online monthly.</p>
<p>Recommendation 6.3: The SFDT Chief Financial Officer should work with the Deputy Director for Client Services to revise Finance Division guidelines to require that invoices be routed to project managers for approval.</p>	<p>Partially Agree</p>	<p>The Department is developing procedures for project manager review and approval of invoices when appropriate.</p> <p>While important for project managers to be involved in purchases and invoicing, they are typically not engaged in work efforts to the degree required, nor are they the SMEs appropriate, for payment authorization.</p>
<p>Recommendation 6.4: The Chief Information Officer should direct the Deputy Director for Client Services to revise PMO project guidelines to require project managers to manage budgets.</p>	<p>Agree</p>	<p>For projects managed by the PMO, the project managers are involved in and informed of project funding amounts and sources, purchase requests and approvals, and payments so that they can assist in managing project budgets, and track/report on forecast vs. actuals. This will be further clarified in updated PMO guidelines.</p>
<p>Recommendation 6.5: The CIO should direct the Deputy Director for Client Services to implement Project Online controls, including (1) defining appropriate use of data for and reporting on color-coded status reports; (2) requiring approval by the PMO manager for project changes that exceed a threshold defined by the PMO.</p>	<p>Agree</p>	<p>The PMO has implemented color-coded status reports. Additional enhancements to provide better visual representation of project status are underway and will be completed by end of FY 16-17. We will develop a threshold for project changes which require PMO Manager approval prior to implementation.</p>
<p>Recommendation 6.6: The CIO should direct the Deputy Director for Client Services to work with the Strategic Sourcing Manager to implement Recommendation 2.2 to develop a policy to include scopes of work, schedules for deliverables, not-to-exceed amounts, and performance measures in all future contracts.</p>	<p>Agree</p>	<p>The Deputy Director of Client Services will work with the Strategic Sourcing Manager to develop and implement the requested policy.</p>

**Appendix 1: City and County of San Francisco Department of
Technology – Staff Survey**

Q1 How long have you worked at the Department of Technology?

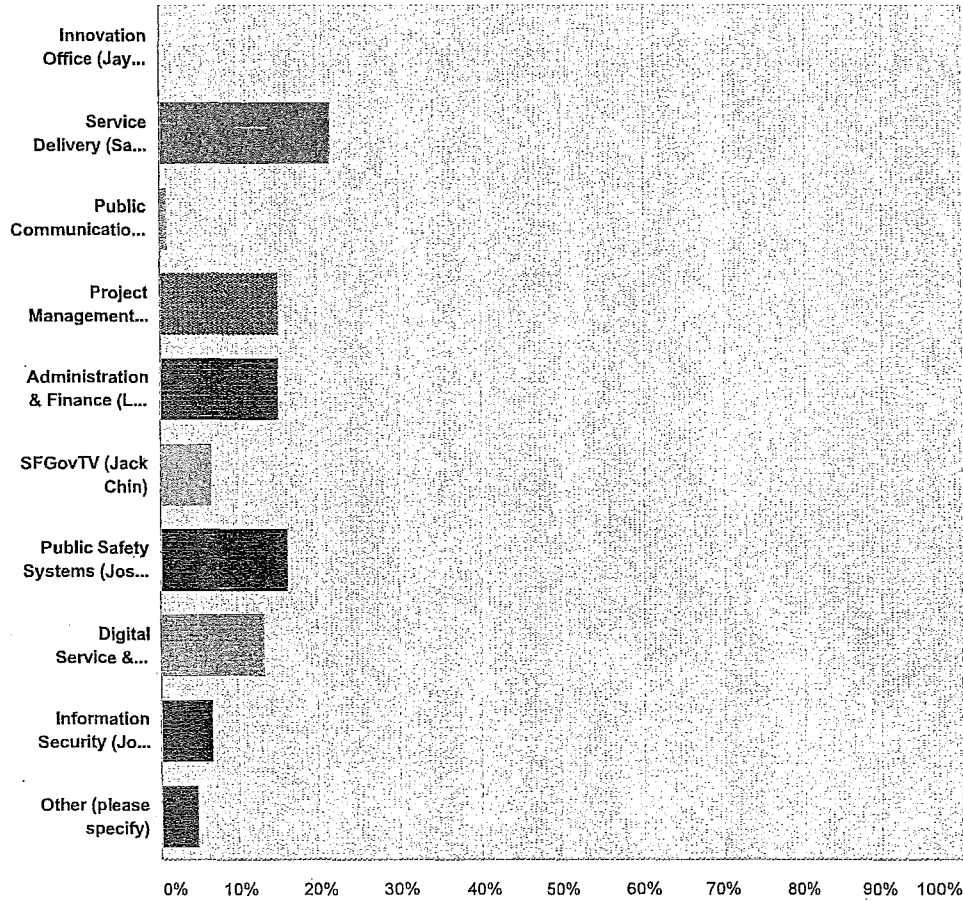
Answered: 123 Skipped: 0



Answer Choices	Responses	
More than 10 years	34.15%	42
7 - 9 years	13.01%	16
4 - 6 years	4.88%	6
1 - 3 years	30.08%	37
Less than one year	17.89%	22
Total		123

Q2 Which Department of Technology division do you work for? (optional)

Answered: 106 Skipped: 17

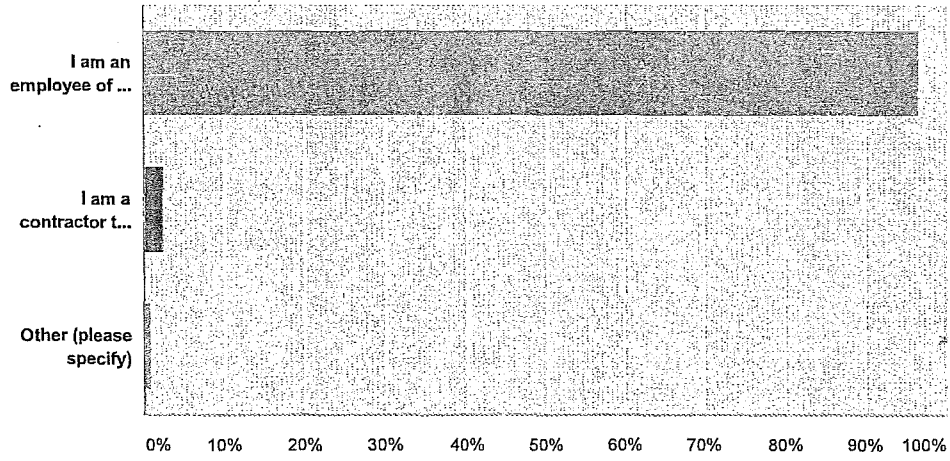


Answer Choices	Responses
Innovation Office (Jay Nath)	0.00% 0
Service Delivery (Saul Melara)	21.70% 23
Public Communications OR Strategy (Kathleen Clark OR Nina D'Amato)	0.94% 1
Project Management Office & Client Services (Bryant Bailless)	15.09% 16
Administration & Finance (Leo Levenson)	15.09% 16
SFGovTV (Jack Chin)	6.60% 7
Public Safety Systems (Joseph John)	16.04% 17
Digital Service & Products (Jane Gong)	13.21% 14
Information Security (Joe Voje)	6.60% 7
Other (please specify)	4.72% 5

Total	106
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Q3 Please indicate the following:

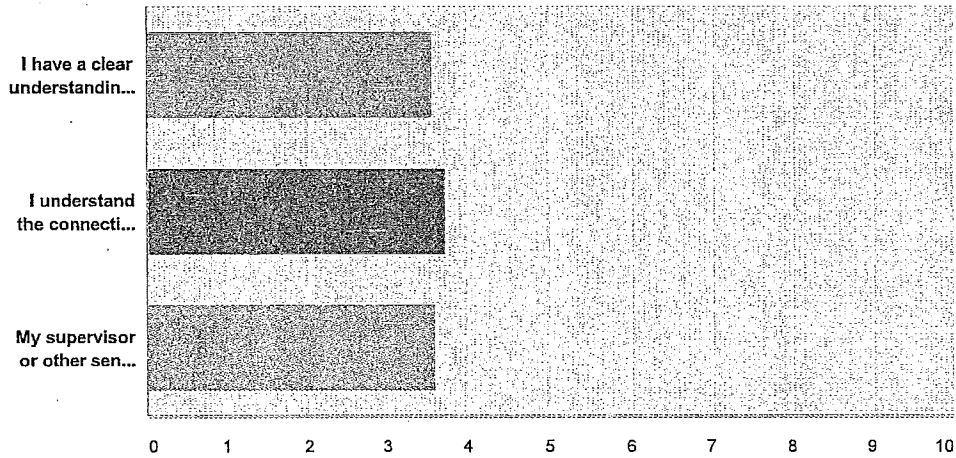
Answered: 123 Skipped: 0



Answer Choices	Responses	
I am an employee of the Department of Technology	96.75%	119
I am a contractor to the Department of Technology (not an employee of the City and County of San Francisco)	2.44%	3
Other (please specify)	0.81%	1
Total		123

Q4 Please indicate your agreement with the following statements about your work at the Department of Technology.

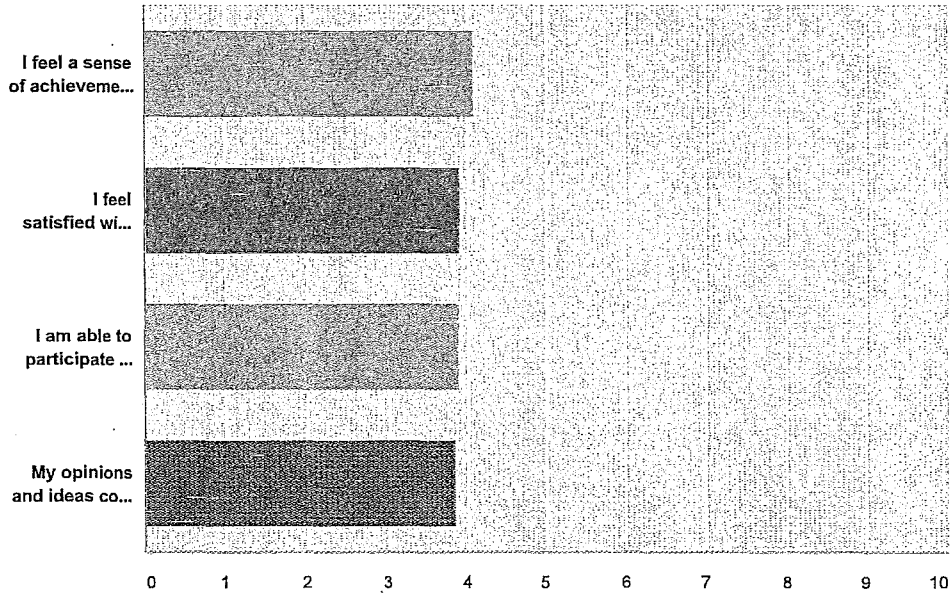
Answered: 118 Skipped: 5



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
I have a clear understanding of the department's strategic priorities and goals.	7.63% 9	11.86% 14	20.34% 24	37.29% 44	22.88% 27	0.00% 0	118	3.56
I understand the connection between my work and the strategic priorities and goals of the department.	6.78% 8	9.32% 11	18.64% 22	33.90% 40	31.36% 37	0.00% 0	118	3.74
My supervisor or other senior leaders provides me regular information about the strategic priorities and goals of the department.	9.32% 11	11.02% 13	16.10% 19	36.44% 43	26.27% 31	0.85% 1	118	3.62

Q5 Please indicate your agreement with the following statements about your work at the Department of Technology.

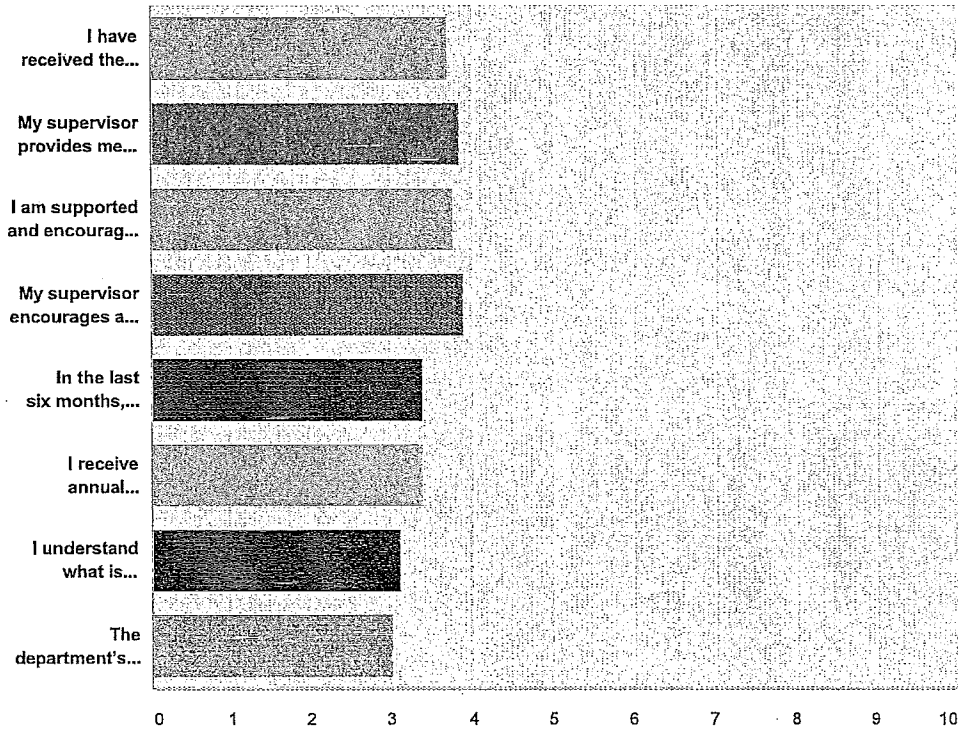
Answered: 117 Skipped: 6



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
I feel a sense of achievement from my work.	3.42% 4	5.98% 7	12.82% 15	32.48% 38	45.30% 53	0.00% 0	117	4.10
I feel satisfied with my level of responsibility at work.	4.27% 5	10.26% 12	11.11% 13	37.61% 44	36.75% 43	0.00% 0	117	3.92
I am able to participate in decisions that affect my work.	6.84% 8	8.55% 10	13.68% 16	30.77% 36	39.32% 46	0.85% 1	117	3.90
My opinions and ideas count at work.	6.84% 8	7.69% 9	15.38% 18	32.48% 38	36.75% 43	0.85% 1	117	3.87

Q6 Please indicate your agreement with the following statements about your work at the Department of Technology.

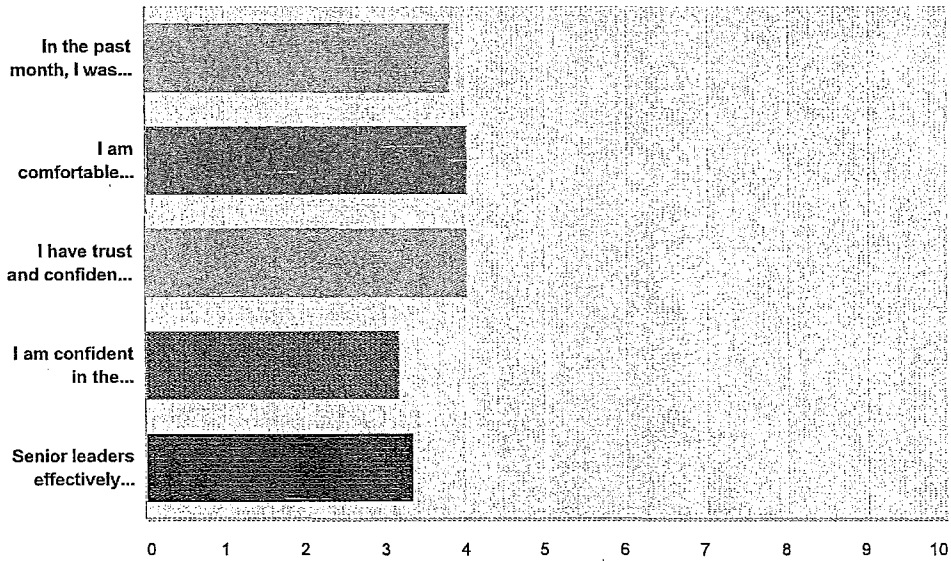
Answered: 114 Skipped: 9



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
I have received the training I need to do my job well.	2.63% 3	9.65% 11	24.56% 28	42.98% 49	19.30% 22	0.88% 1	114	3.69
My supervisor provides me with constructive feedback to improve my job performance.	5.26% 6	6.14% 7	17.54% 20	40.35% 46	30.70% 35	0.00% 0	114	3.85
I am supported and encouraged to take advantage of professional growth and development opportunities.	3.51% 4	9.65% 11	22.81% 26	36.84% 42	27.19% 31	0.00% 0	114	3.75
My supervisor encourages and supports my professional growth and development.	2.63% 3	8.77% 10	21.05% 24	34.21% 39	31.58% 36	1.75% 2	114	3.89
In the last six months, someone at work checked in with me about my progress and professional development.	5.26% 6	25.44% 29	18.42% 21	28.07% 32	22.81% 26	0.00% 0	114	3.38
I receive annual performance evaluations regularly.	8.77% 10	18.42% 21	30.70% 35	20.18% 23	11.40% 13	10.53% 12	114	3.39
I understand what is expected of me to obtain a promotion.	13.16% 15	21.05% 24	30.70% 35	17.54% 20	10.53% 12	7.02% 8	114	3.12
The department's process for promotion and advancement is always fair.	24.56% 28	15.79% 18	26.32% 30	13.16% 15	8.77% 10	11.40% 13	114	3.00

Q7 Please indicate your agreement with the following statements about your work at the Department of Technology.

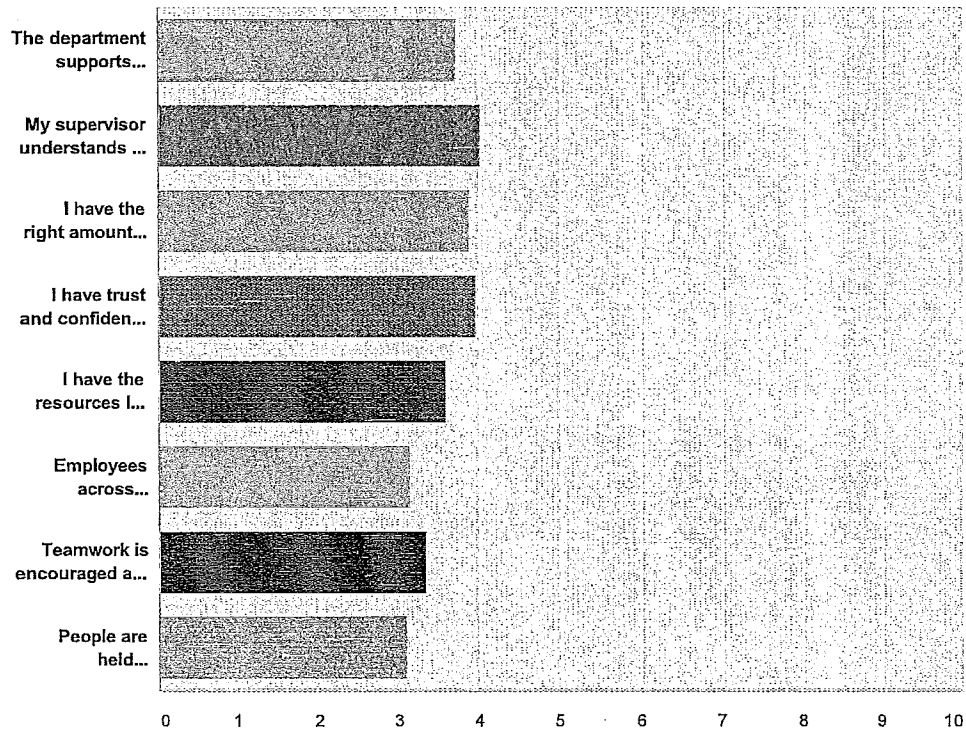
Answered: 114 Skipped: 9



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
In the past month, I was praised or recognized for doing good work.	3.51% 4	11.40% 13	17.54% 20	35.09% 40	31.58% 36	0.88% 1	114	3.82
I am comfortable sharing work concerns with my supervisor or other senior leaders.	5.26% 6	3.51% 4	14.04% 16	38.60% 44	37.72% 43	0.88% 1	114	4.03
I have trust and confidence in my supervisor.	5.26% 6	7.89% 9	11.40% 13	30.70% 35	44.74% 51	0.00% 0	114	4.02
I am confident in the leadership skills and abilities of senior leaders at the department.	13.16% 15	18.42% 21	23.68% 27	26.32% 30	18.42% 21	0.00% 0	114	3.18
Senior leaders effectively executes the department's strategic priorities and goals.	11.40% 13	18.42% 21	22.81% 26	25.44% 29	16.67% 19	5.26% 6	114	3.33

Q8 Please indicate your agreement with the following statements about your work at the Department of Technology.

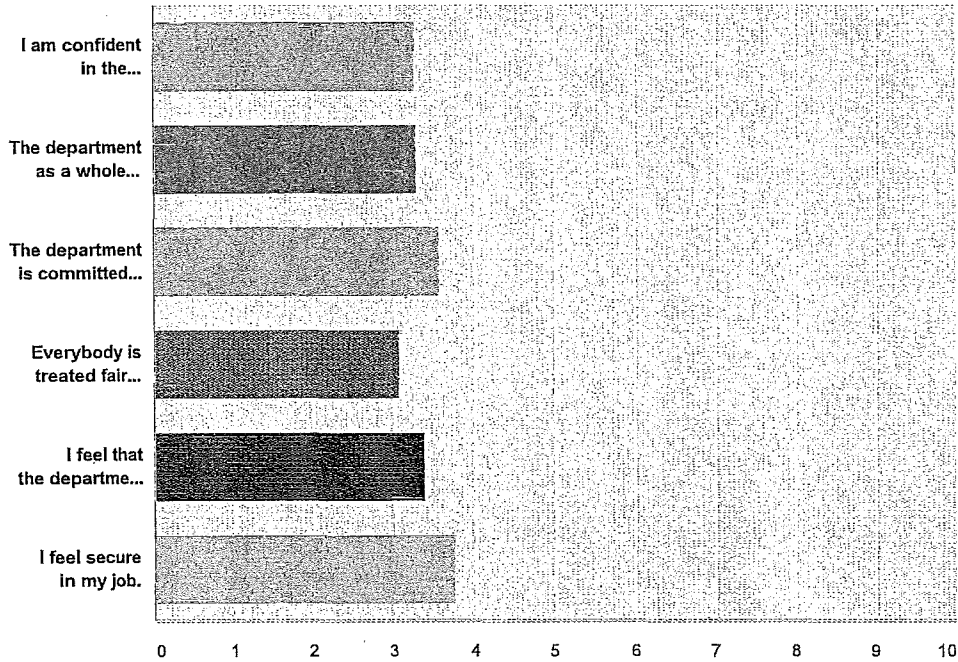
Answered: 110 Skipped: 13



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
The department supports healthy work/life boundaries.	1.82% 2	10.91% 12	20.91% 23	45.45% 50	20.00% 22	0.91% 1	110	3.74
My supervisor understands the benefits of maintaining healthy work/life boundaries.	3.64% 4	7.27% 8	9.09% 10	44.55% 49	33.64% 37	1.82% 2	110	4.03
I have the right amount of peer support at work.	1.82% 2	10.91% 12	18.18% 20	36.36% 40	30.91% 34	1.82% 2	110	3.89
I have trust and confidence in my colleagues.	1.82% 2	7.27% 8	13.64% 15	46.36% 51	30.91% 34	0.00% 0	110	3.97
I have the resources I need to do my job well.	5.45% 6	6.36% 7	29.09% 32	40.91% 45	18.18% 20	0.00% 0	110	3.60
Employees across divisions collaborate well together.	14.55% 16	18.18% 20	25.45% 28	27.27% 30	10.91% 12	3.64% 4	110	3.13
Teamwork is encouraged and practiced in this department.	10.91% 12	14.55% 16	23.64% 26	31.82% 35	18.18% 20	0.91% 1	110	3.35
People are held accountable for the quality of work they produce.	17.27% 19	16.36% 18	24.55% 27	25.45% 28	14.55% 16	1.82% 2	110	3.09

Q9 Please indicate your agreement with the following statements about your work at the Department of Technology.

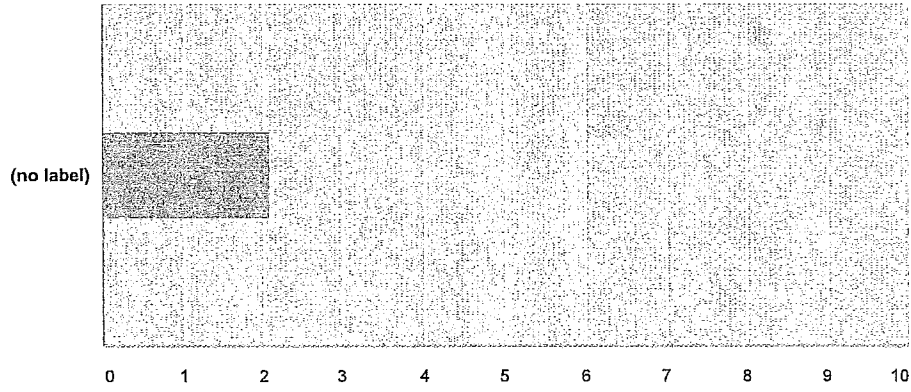
Answered: 109 Skipped: 14



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total	Weighted Average
I am confident in the stability and future of the department.	9.17% 10	14.68% 16	30.28% 33	32.11% 35	12.84% 14	0.92% 1	109	3.28
The department as a whole models high standards of professionalism.	7.34% 8	15.60% 17	32.11% 35	31.19% 34	11.93% 13	1.83% 2	109	3.30
The department is committed to providing high quality services.	5.50% 6	8.26% 9	27.52% 30	40.37% 44	18.35% 20	0.00% 0	109	3.58
Everybody is treated fairly in this department.	15.60% 17	21.10% 23	21.10% 23	27.52% 30	11.93% 13	2.75% 3	109	3.07
I feel that the department respects individuals and values their differences.	10.09% 11	14.68% 16	20.18% 22	38.53% 42	14.68% 16	1.83% 2	109	3.39
I feel secure in my job.	4.59% 5	8.26% 9	20.18% 22	42.20% 46	23.85% 26	0.92% 1	109	3.75

Q10 City employees may receive gifts from contractors and vendors and non-City organizations

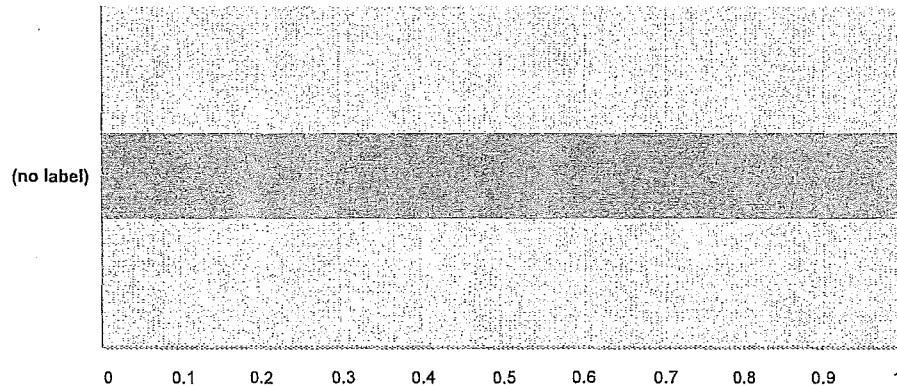
Answered: 109 Skipped: 14



	Agree	Disagree	I Don't Know	Total	Weighted Average
(no label)	6.42% 7	78.90% 86	14.68% 16	109	2.08

Q11 There are limits to the amount of gifts that City employees may receive from contractors, vendors, and non-City organizations.

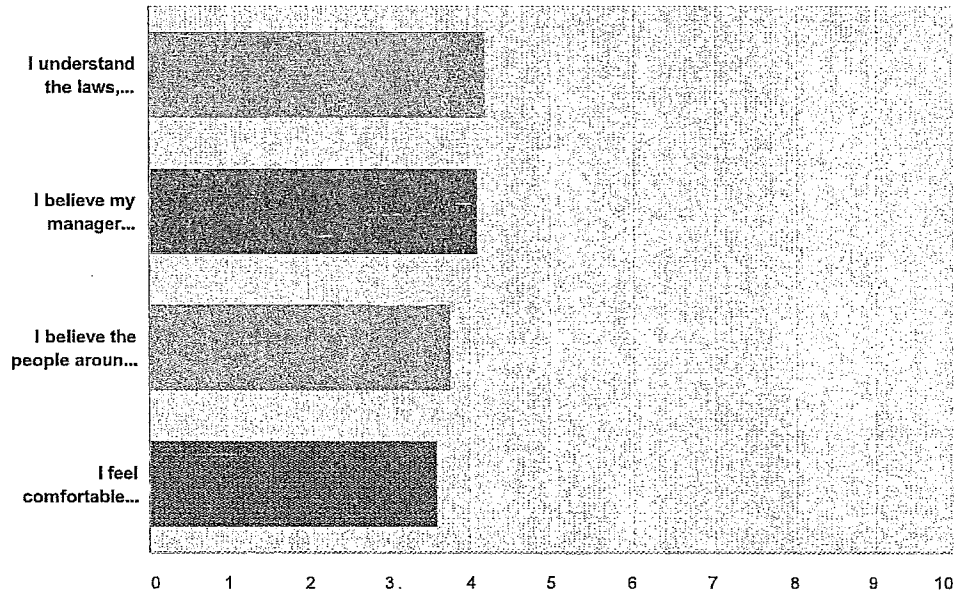
Answered: 7 Skipped: 116



	Agree	Disagree	I Don't Know	Total	Weighted Average
(no label)	100.00% 7	0.00% 0	0.00% 0	7	1.00

Q12 Please indicate your agreement with the following statement about your work at the Department of Technology.

Answered: 107 Skipped: 16

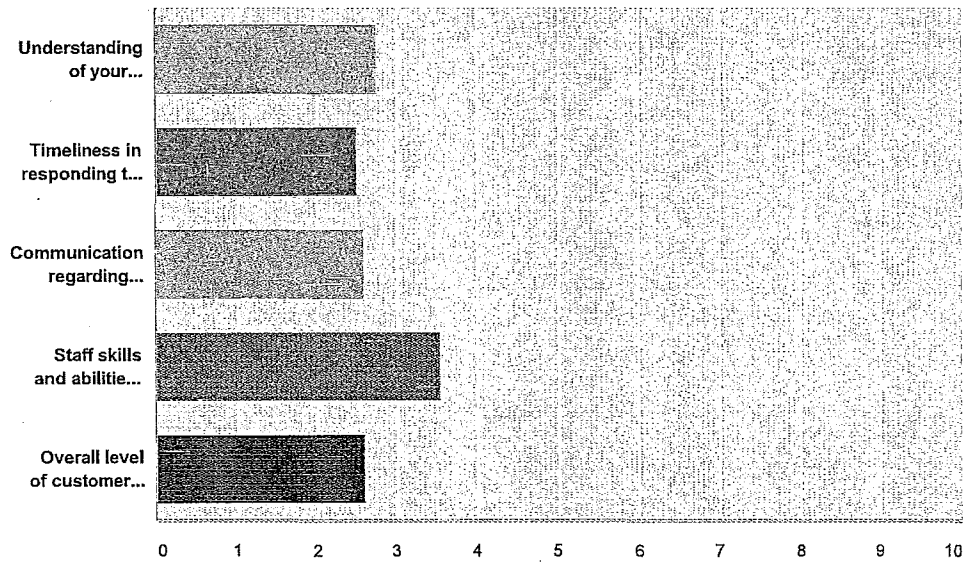


	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable (N/A)	Total	Weighted Average
I understand the laws, rules, and regulations regarding conflict of interest matters and relationships between City employees and contractors, vendors, and non-City organizations.	0.00% 0	1.87% 2	14.95% 16	43.93% 47	38.32% 41	0.93% 1	107	4.20
I believe my manager understands the laws, rules, and regulations regarding conflict of interest matters and relationships between City employees and contractors, vendors, and non-City organizations.	2.80% 3	3.74% 4	13.08% 14	39.25% 42	39.25% 42	1.87% 2	107	4.10
I believe the people around me understand the laws, rules, and regulations regarding conflict of interest matters and relationships between City employees and contractors, vendors, and non-City organizations.	3.74% 4	3.74% 4	27.10% 29	40.19% 43	22.43% 24	2.80% 3	107	3.76
I feel comfortable disclosing a suspected violation of any law or wrongdoing by City employees without fear of reprisal.	8.41% 9	10.28% 11	21.50% 23	29.91% 32	27.10% 29	2.80% 3	107	3.59

**Appendix 2: City and County of San Francisco Department of
Technology – Customer Survey**

Q2 Please rate the Department of Technology's performance in the following customer service areas.

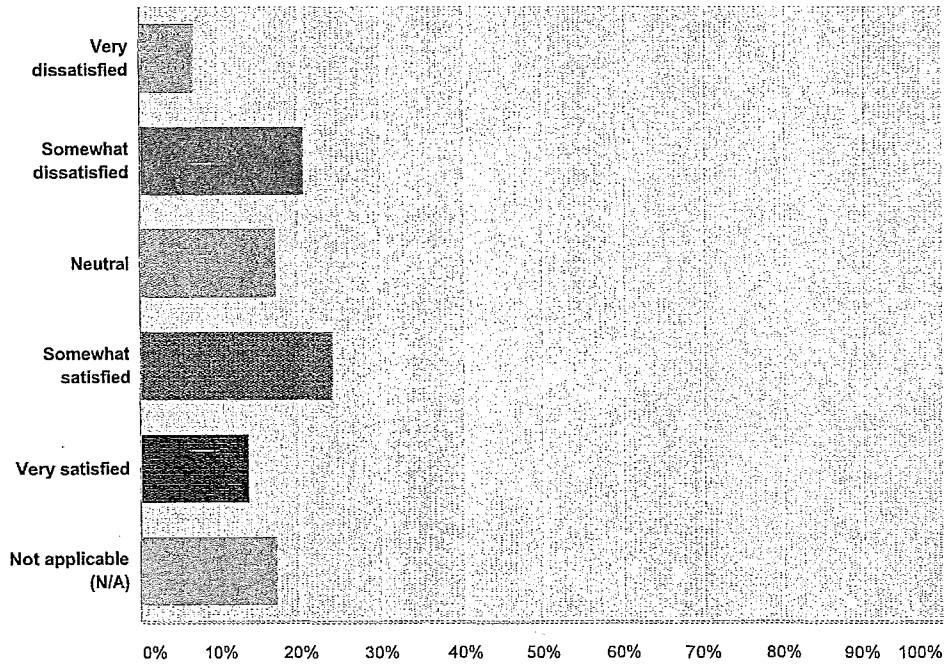
Answered: 29 Skipped: 2



	Poor	Below Average	Average	Above Average	Excellent	N/A	Total	Weighted Average
Understanding of your department's IT needs	20.69% 6	20.69% 6	27.59% 8	17.24% 5	10.34% 3	3.45% 1	29	2.75
Timeliness in responding to requests for assistance (including incidents, service requests, and scheduled work efforts)	24.14% 7	24.14% 7	27.59% 8	17.24% 5	3.45% 1	3.45% 1	29	2.50
Communication regarding requests for assistance (incidents, service requests, and scheduled work efforts)	17.24% 5	31.03% 9	27.59% 8	13.79% 4	6.90% 2	3.45% 1	29	2.61
Staff skills and abilities to resolve requests for assistance (incidents, service requests, and scheduled work efforts)	0.00% 0	6.90% 2	41.38% 12	37.93% 11	10.34% 3	3.45% 1	29	3.54
Overall level of customer service	20.69% 6	27.59% 8	27.59% 8	10.34% 3	10.34% 3	3.45% 1	29	2.61

Q3 How satisfied are you with the Department of Technology's new ticketing platform, ServiceNow?

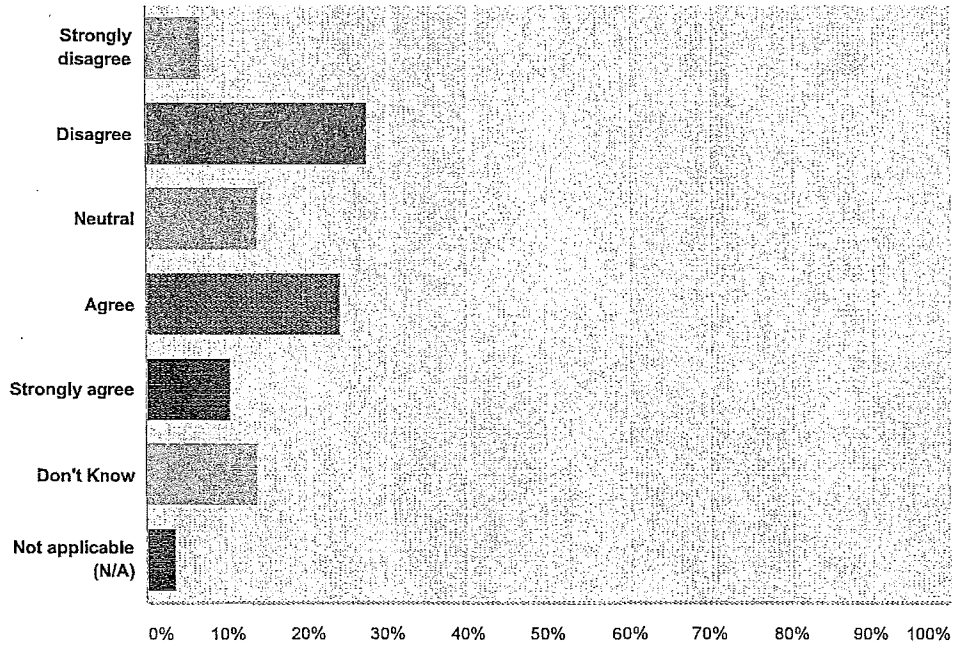
Answered: 29 Skipped: 2



Answer Choices	Responses	
Very dissatisfied	6.90%	2
Somewhat dissatisfied	20.69%	6
Neutral	17.24%	5
Somewhat satisfied	24.14%	7
Very satisfied	13.79%	4
Not applicable (N/A)	17.24%	5
Total		29

Q4 The Department of Technology consistently meets my department or agency's Service Level Agreement (SLA) service objectives.

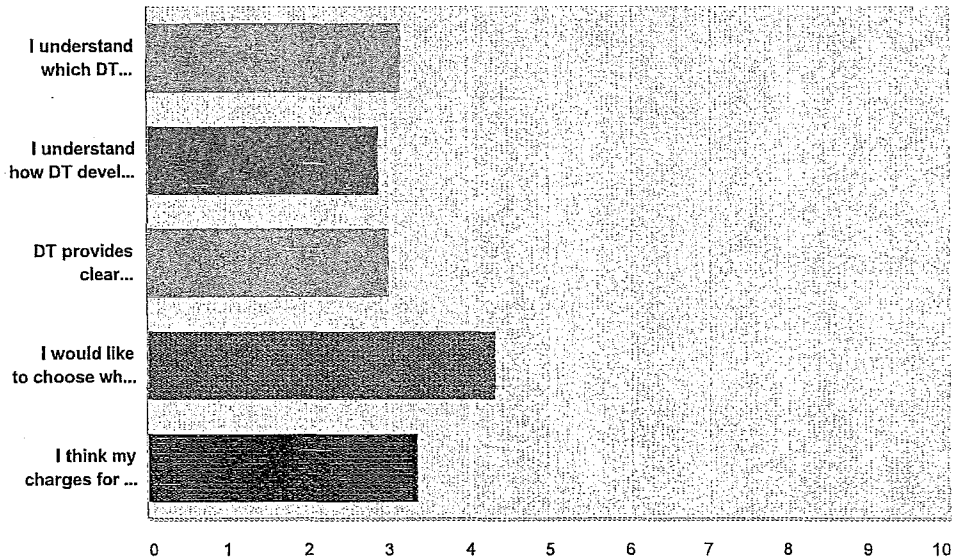
Answered: 29 Skipped: 2



Answer Choices	Responses	
Strongly disagree	6.90%	2
Disagree	27.59%	8
Neutral	13.79%	4
Agree	24.14%	7
Strongly agree	10.34%	3
Don't Know	13.79%	4
Not applicable (N/A)	3.45%	1
Total		29

Q6 Please indicate your agreement with the following statements about service billing at the Department of Technology.

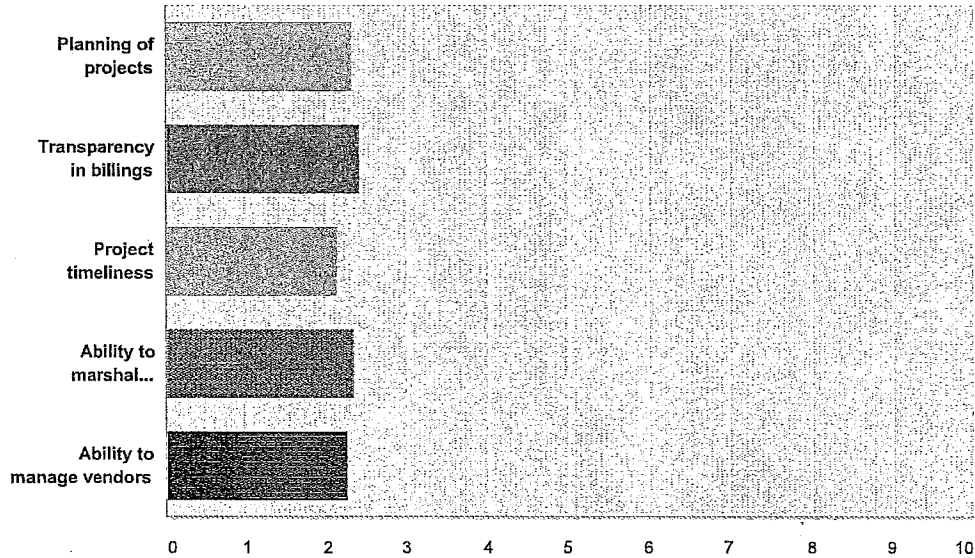
Answered: 29 Skipped: 2



	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	N/A	Total	Weighted Average
I understand which DT services I am paying for	13.79% 4	27.59% 8	6.90% 2	34.48% 10	3.45% 1	10.34% 3	3.45% 1	29	3.18
I understand how DT develops service charges and allocates them to my department	13.79% 4	31.03% 9	24.14% 7	17.24% 5	0.00% 0	10.34% 3	3.45% 1	29	2.89
DT provides clear explanations for its service rates and charges	20.69% 6	17.24% 5	27.59% 8	17.24% 5	0.00% 0	13.79% 4	3.45% 1	29	3.00
I would like to choose which DT services to pay from a service catalogue	3.45% 1	0.00% 0	13.79% 4	31.03% 9	41.38% 12	6.90% 2	3.45% 1	29	4.32
I think my charges for DT services are reasonable relative to the level of service provided	3.45% 1	31.03% 9	20.69% 6	17.24% 5	6.90% 2	13.79% 4	6.90% 2	29	3.37

Q8 Please rate DT's Project Management Office performance in the following areas:

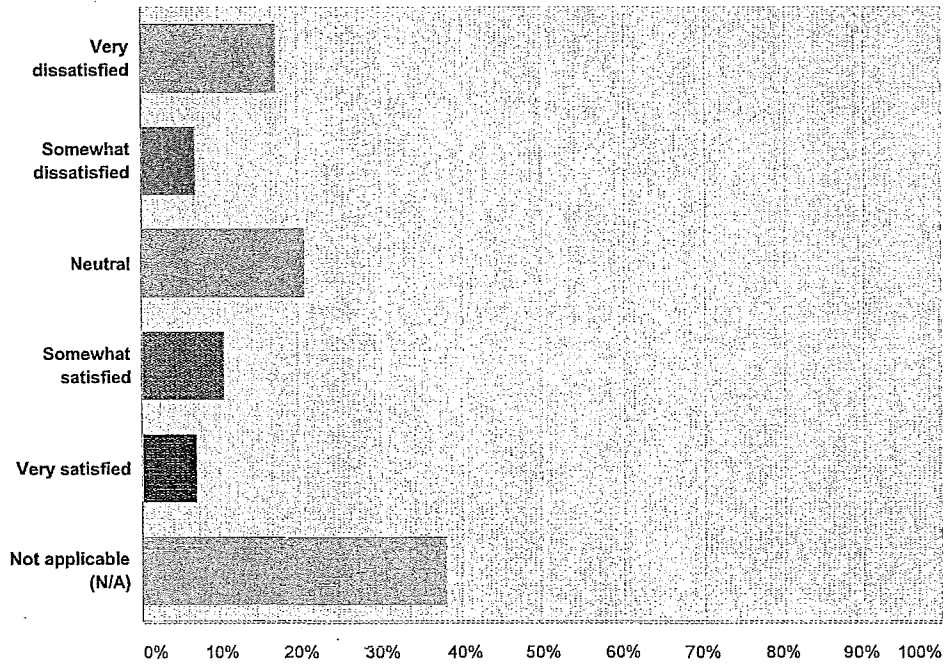
Answered: 29 Skipped: 2



	Poor	Below Average	Average	Above Average	Excellent	N/A	Total	Weighted Average
Planning of projects	20.69% 6	6.90% 2	20.69% 6	3.45% 1	3.45% 1	44.83% 13	29	2.31
Transparency in billings	13.79% 4	6.90% 2	20.69% 6	6.90% 2	0.00% 0	51.72% 15	29	2.43
Project timeliness	20.69% 6	17.24% 5	6.90% 2	10.34% 3	0.00% 0	44.83% 13	29	2.13
Ability to marshal appropriate resources	13.79% 4	13.79% 4	17.24% 5	6.90% 2	0.00% 0	48.28% 14	29	2.33
Ability to manage vendors	10.34% 3	13.79% 4	13.79% 4	3.45% 1	0.00% 0	58.62% 17	29	2.25

Q9 Overall, how satisfied are you with the services of DT's Project Management Office?

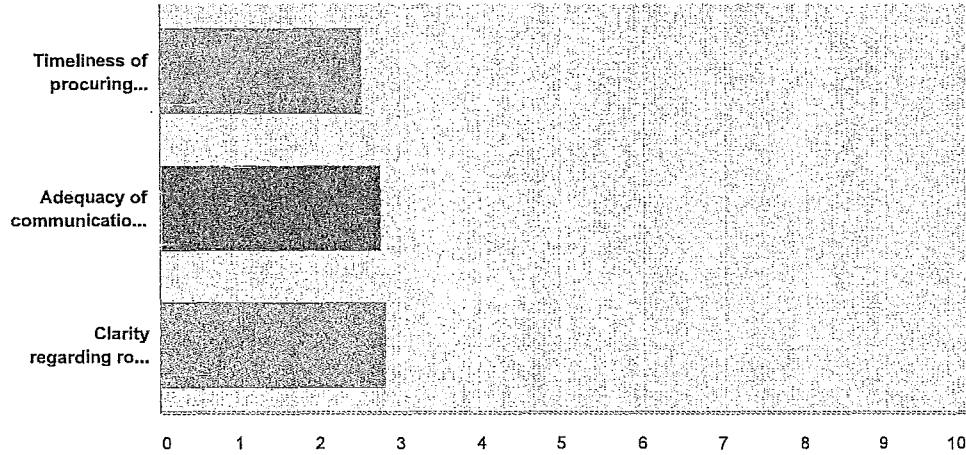
Answered: 29 Skipped: 2



Answer Choices	Responses	
Very dissatisfied	17.24%	5
Somewhat dissatisfied	6.90%	2
Neutral	20.69%	6
Somewhat satisfied	10.34%	3
Very satisfied	6.90%	2
Not applicable (N/A)	37.93%	11
Total		29

Q11 For technology services and equipment procured through the Department of Technology, please rate the following areas of procurement:

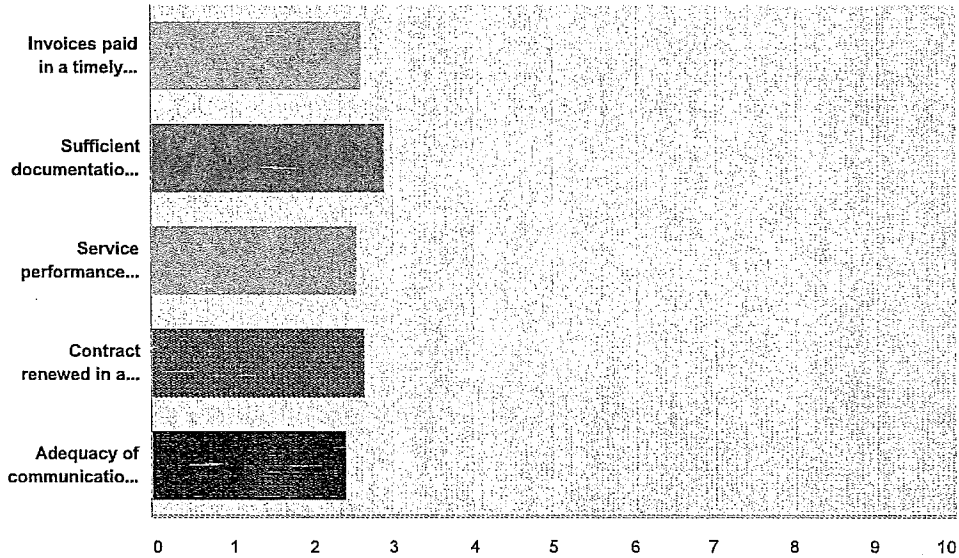
Answered: 28 Skipped: 3



	Poor	Below Average	Average	Above Average	Excellent	N/A	Total	Weighted Average
Timeliness of procuring service	10.71% 3	25.00% 7	25.00% 7	7.14% 2	3.57% 1	28.57% 8	28	2.55
Adequacy of communication regarding process and status of procuring service	7.14% 2	25.00% 7	25.00% 7	14.29% 4	3.57% 1	25.00% 7	28	2.76
Clarity regarding roles and responsibilities between DT, your department, and the vendor	10.71% 3	14.29% 4	32.14% 9	14.29% 4	3.57% 1	25.00% 7	28	2.81

Q12 For technology services and equipment procured through the Department of Technology, please rate the following areas of contract management:

Answered: 28 Skipped: 3



	Poor	Below Average	Average	Above Average	Excellent	N/A	Total	Weighted Average
Invoices paid in a timely manner	10.71% 3	3.57% 1	35.71% 10	3.57% 1	0.00% 0	46.43% 13	28	2.60
Sufficient documentation of service delivery required for payment	7.14% 2	10.71% 3	28.57% 8	10.71% 3	3.57% 1	39.29% 11	28	2.88
Service performance monitored	7.14% 2	14.29% 4	17.86% 5	7.14% 2	0.00% 0	53.57% 15	28	2.54
Contract renewed in a timely manner	10.71% 3	10.71% 3	25.00% 7	10.71% 3	0.00% 0	42.86% 12	28	2.63
Adequacy of communication from DT regarding contract management	14.29% 4	17.86% 5	17.86% 5	10.71% 3	0.00% 0	39.29% 11	28	2.41

BOARD of SUPERVISORS



City Hall
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco 94102-4689
Tel. No. 415-554-5184
Fax No. 415-554-5163
TDD/TTY No. 415-554-5227

MEMORANDUM

TO: Ken Bukowski, Acting Executive Director, Department of Technology

FROM: Erica Major, Assistant Clerk, Government Audit and Oversight Committee,
Board of Supervisors

DATE: June 13, 2017

SUBJECT: HEARING MATTER INTRODUCED

The Board of Supervisors' Government Audit and Oversight Committee has received the following hearing request, introduced by Supervisor Peskin on June 6, 2017:

File No. 170715

Hearing on the Budget and Legislative Analyst's June 5, 2017, Performance Audit of the Department of Technology, and receive presentations of its timeline and work plan for implementing recommendations; and requesting the Department of Technology to report.

If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

c: David German, Department of Technology

Print Form

Introduction Form

By a Member of the Board of Supervisors or Mayor

RECEIVED
 BOARD OF SUPERVISORS
 SAN FRANCISCO
 Time stamp
 2017 JUN 8 11:23 AM
 BY AK

I hereby submit the following item for introduction (select only one):

- 1. For reference to Committee. (An Ordinance, Resolution, Motion or Charter Amendment).
- 2. Request for next printed agenda Without Reference to Committee.
- 3. Request for hearing on a subject matter at Committee.
- 4. Request for letter beginning : "Supervisor [] inquiries"
- 5. City Attorney Request.
- 6. Call File No. [] from Committee.
- 7. Budget Analyst request (attached written motion).
- 8. Substitute Legislation File No. []
- 9. Reactivate File No. []
- 10. Question(s) submitted for Mayoral Appearance before the BOS on []

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

- Small Business Commission
- Youth Commission
- Ethics Commission
- Planning Commission
- Building Inspection Commission

Note: For the Imperative Agenda (a resolution not on the printed agenda), use the Imperative Form.

Sponsor(s):

Supervisor Peskin

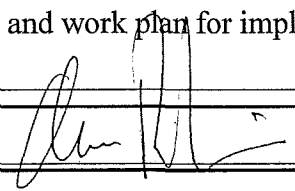
Subject:

Hearing on the June 5, 2017 Performance Audit of the Department of Technology & Timeline for Implementing Recommendations

The text is listed:

Request for a hearing on the Budget & Legislative Analysts' June 5, 2017 Performance Audit of the Department of Technology, and for the Department of Technology to present its timeline and work plan for implementing recommendations.

Signature of Sponsoring Supervisor:



For Clerk's Use Only

