



Proprietary & Confidential

FINAL REPORT

City of Santa Monica
COMPUTER EQUIPMENT REPLACEMENT PROGRAM FUND REVIEW

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Moss Adams LLP
999 3rd Avenue, Suite 2800
Seattle, WA 98104
(206) 302-6500



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I. EXECUTIVE SUMMARY

A. BACKGROUND, SCOPE, AND METHODOLOGY

The mission of the City of Santa Monica’s (the City) Information Services Department (ISD or the Department) is to implement and maintain innovative, customer-oriented information technologies that reinforce sustainability and community wellbeing, promote government transparency and accountability, and support public safety, mobility, livability and economic growth. With a staff of 54 FTE positions, the ISD supports departments across the City.

As part of this work, ISD manages the (CERP) Fund. The CERP’s purpose is to ensure that computer equipment and technology resources meet City standards and are up to date.

This review was designed to align the CERP’s structure, governance, policies, and procedures to increase efficiency and effectiveness. The assessment was conducted between February and April, 2019, and consisted of four major phases: 1) Project Initiation and Management, 2) Fact Finding, 3) Analysis, and 4) Reporting. The analysis was informed by interviews, document reviews, technology reviews, a peer benchmarking survey, an internal customer survey, and research into industry best practices.

ISD is well positioned to make changes within IT governance (Recommendation 1), funding sources and usage (Recommendations 2-4), internal service delivery (Recommendations 5-6), and related systems, policies, and procedures (Recommendations 7-10). Taken as a whole, these adjustments should help increase the sustainability of the CERP Fund.

B. SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

OBSERVATION AND RECOMMENDATIONS		
GOVERNANCE		
1.	Observation	The City does not yet have centralized technology governance.
	Recommendation	Strengthen IT governance by establishing a City-wide governance committee, and consider centralizing IT funding to more effectively manage the City’s IT spend.
FUND SERVICES AND USAGE		
2.	Observation	ISD is recovering all operating costs. However, Departments report lack of clarity and frustration around charges. Funding for IT hardware, software, and operations at the City comes from a variety of sources.
	Recommendation	A. Improve communication of ISD charges within the City’s cost allocation plan. B. Assess cost allocation methodologies to determine whether a different approach would benefit Department customers. C. Consider transitioning to an Internal Service Fund structure.



OBSERVATION AND RECOMMENDATIONS		
3.	Observation	The CERP Fund is not fully recovering direct costs or collecting comprehensive replacement reserves.
	Recommendation	Establish a cost recovery goal, adjust charges to capture full direct costs of equipment, and initiate the collection of additional reserve funds.
INTERNAL SERVICE DELIVERY		
4.	Observation	The ISD's technical support team is understaffed given the current workload.
	Recommendation	Reduce the technical support workload by increasing staff and/or decreasing the complexity of the IT environment.
5.	Observation	Department staff report a lack of clarity around ISD processes, priorities, and charges.
	Recommendation	Take steps to strengthen and clarify communication with departments.
SYSTEMS, POLICIES, AND PROCESSES		
6.	Observation	The ISD operates a dedicated data center to support operations across the City.
	Recommendation	Develop a transition strategy to move toward a more flexible hybrid model that can better accommodate the City's future needs.
7.	Observation	The IT asset management system is not adequately meeting ISD and City needs.
	Recommendation	Support a comprehensive IT asset management system by procuring asset management software and clarify related roles and responsibilities.
8.	Observation	The ISD does not employ a leasing strategy for IT equipment.
	Recommendation	The ISD should consider a selective leasing strategy for specific areas of equipment where leasing may provide a higher benefit than ownership.
9.	Observation	Key ISD policies and procedures have not been established or documented.
	Recommendation	Establish clear policies and procedures to support service delivery, collaboration, and accountability.



II. BACKGROUND, SCOPE, AND METHODOLOGY

A. BACKGROUND

The ISD's mission is to implement and maintain innovative, customer-oriented information technologies that reinforce sustainability and community wellbeing, promote government transparency and accountability, and support public safety, mobility, livability and economic growth. With a staff of 54 FTE, the ISD supports departments across the City.

As part of this work, the ISD manages the CERP Fund. The CERP's purpose is to ensure that computer equipment and technology resources meet City standards and are up to date.

The goal of this review is to provide a comprehensive analysis of the CERP and related ISD processes. Our recommendations focus on aligning the CERP Fund's structure, governance, policies, and procedures to increase efficiency and effectiveness.

Changing Technology Landscape

When the City originally established the CERP, the intention was for the fund to maintain replacement reserves for technology, with a primary emphasis on hardware like computers. Since that time, changes in the technology landscape have transformed the way cities approach and utilize IT resources. In particular, there is an increasing focus on software and services.

As IT trends have shifted, the CERP has adjusted to meet those needs and now covers costs related to three areas:

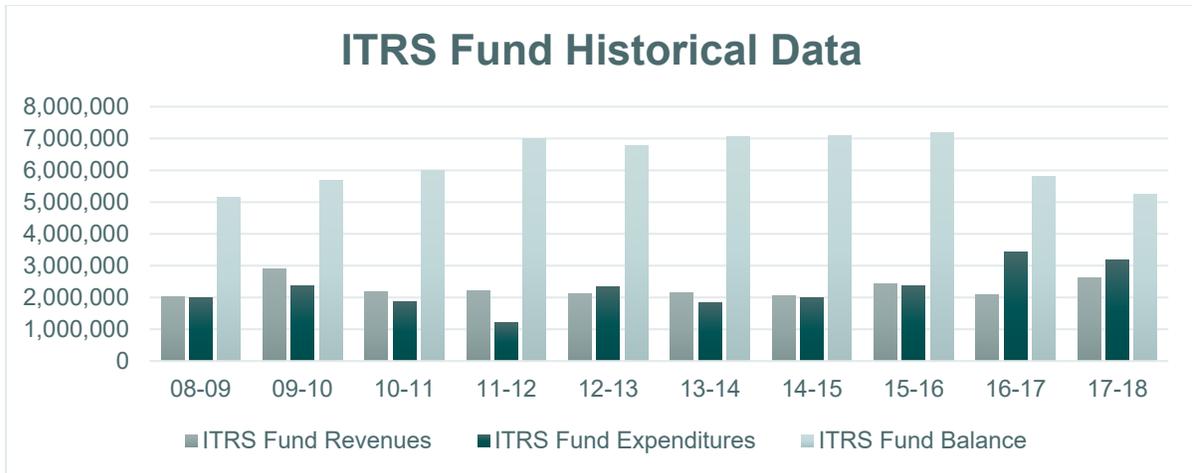
- Replacements of end-user computing systems, data center equipment and services, and network infrastructure
- Annual maintenance and renewals of software subscriptions
- Enhancements (primarily new equipment purchases) for end-user computing systems, enterprise software, information security, data center equipment and services, and network infrastructure

Within the public sector, increasing demands for efficiency and effectiveness in service delivery have led to higher expectations for technology solutions. As cities across the country increase their reliance and creative uses of technology to improve, optimize, and expand services, expenditures and investment in technology are expected to rise.

Historical Funding Levels

The CERP Fund is part of the Information Technology Replacement and Services Fund (ITRS Fund). This umbrella fund comprises both the CERP Fund and the Telecommunication Fund. Between FY 2011–12 and 2015–16, the ITRS Fund balance ranged between \$6.9–\$7.1 million. However, in the past two fiscal years, the fund has seen an overall decrease down to \$5.2 million in FY 2017-18.¹

¹ Source: City of Santa Monica CAFR documents.

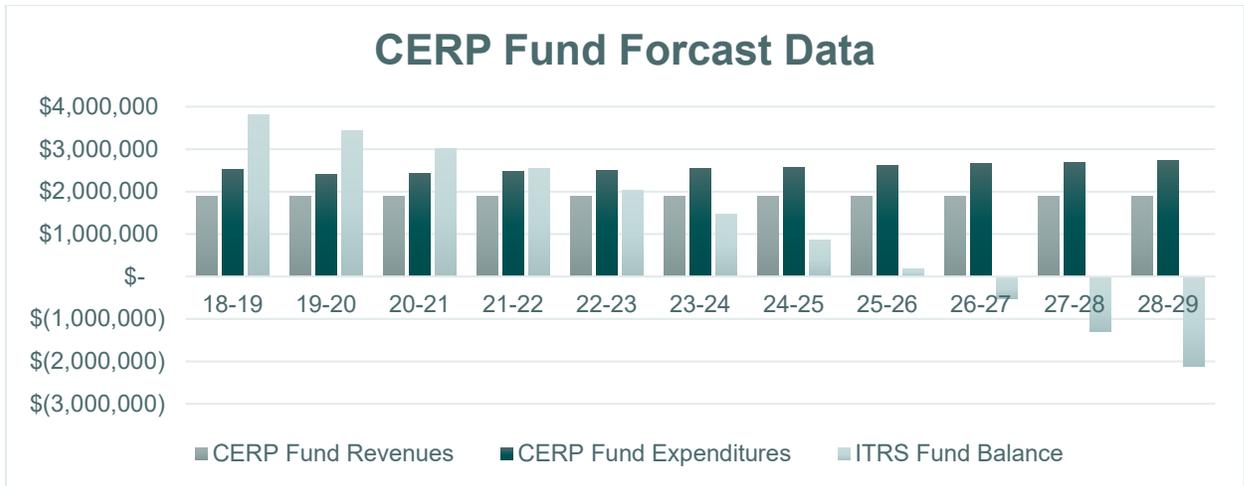


FY	ITRS FUND REVENUES	ITRS FUND EXPENDITURES	ITRS NET POSITION CHANGE	ITRS FUND BALANCE
2008-2009	\$2,020,227	\$1,996,725	\$23,502	\$5,158,363
2009-2010	\$2,899,206	\$2,380,164	\$519,042	\$5,677,405
2010-2011	\$2,183,021	\$1,878,946	\$304,075	\$5,981,480
2011-2012	\$2,205,096	\$1,200,687	\$1,004,409	\$6,985,889
2012-2013	\$2,116,193	\$2,339,200	(\$223,007)	\$6,762,882
2013-2014	\$2,139,720	\$1,845,077	\$294,643	\$7,057,525
2014-2015	\$2,044,095	\$1,998,274	\$45,821	\$7,103,346
2015-2016	\$2,438,368	\$2,368,069	\$70,299	\$7,173,645
2016-2017	\$2,078,498	\$3,438,088	(\$1,359,590)	\$5,814,055
2017-2018	\$2,620,873	\$3,185,047	(\$564,174)	\$5,253,744

Forecast Funding Levels

Based on the Department forecast, the ITRS Fund is expected to remain self-sustaining through the end of fiscal year 2025–26 (before annual set aside) and then experience a shortfall for the last three years of the forecast. This is projected to result in an approximately \$2.0 million deficit at the end of the forecast.

This shortfall is primarily a result of CERP-related expenses—the additive change in net position over the 10-year forecast due to the Telecommunication Fund expenses is around \$200,000, versus \$7.3 million for the CERP Fund. This decrease has been mainly driven by recent increases in CERP Fund expenditures due to unbudgeted enhancements for information security, increased expenses for Microsoft licenses, and increased replacement costs for computer workstations.



FY	CERP FUND REVENUES	CERP FUND EXPENDITURES	CERP NET POSITION CHANGE	ITRS FUND BALANCE
2018-2019	\$ 1,888,483	\$ 2,532,317	\$ (643,834)	\$ 3,809,248
2019-2020	\$ 1,888,483	\$ 2,401,668	\$ (513,186)	\$ 3,432,557
2020-2021	\$ 1,888,483	\$ 2,434,895	\$ (546,412)	\$ 3,010,941
2021-2022	\$ 1,888,483	\$ 2,468,919	\$ (580,436)	\$ 2,543,323
2022-2023	\$ 1,888,483	\$ 2,503,759	\$ (615,277)	\$ 2,028,597
2023-2024	\$ 1,888,483	\$ 2,539,436	\$ (650,953)	\$ 1,465,635
2024-2025	\$ 1,888,483	\$ 2,575,969	\$ (687,486)	\$ 853,278
2025-2026	\$ 1,888,483	\$ 2,613,379	\$ (724,896)	\$ 190,340
2026-2027	\$ 1,888,483	\$ 2,651,687	\$ (763,204)	\$ (524,393)
2027-2028	\$ 1,888,483	\$ 2,690,914	\$ (802,431)	\$ (1,292,162)
2028-2029	\$ 1,888,483	\$ 2,731,082	\$ (842,599)	\$ (2,114,243)

The ISD is well positioned to make changes within IT governance (Recommendation 1), funding sources and usage (Recommendations 2-3), internal service delivery (Recommendations 4-5), and related systems, policies, and procedures (Recommendations 6-9). Taken as a whole, these adjustments should help increase the sustainability and effectiveness of the CERP Fund.

Continual change within the technology landscape is to be expected. By ensuring their department's work and the CERP Fund are structured and supported to maximize adaptability, ISD can be well prepared to meet the changing needs of the City.



B. SCOPE AND METHODOLOGY

The assessment was conducted between February and April, 2019. The analysis was informed by interviews, document reviews, technology reviews, a peer benchmarking survey, an internal customer survey, and research into industry best practices. The project consisted of four major phases:

1. **Project initiation and management:** This phase concentrated on comprehensive project planning and project management, including identifying staff to interview, identifying documents to review, performing initial peer selection and refinement, communicating results, and establishing regular reports on project status.
2. **Fact finding:** This phase included process walk-throughs, document review, document review, peer benchmarking, industry standard research, internal customer feedback survey, and any additional staff interviews as needed. We worked with the City's ISD staff to obtain the most currently available information and insights.
 - *Document Review:* We reviewed documents including policies, procedures, planning documents, asset inventories, and others.
 - *Peer Benchmarking:* We identified similarly-situated peer cities to gather information about information technology department budgets, organizational structures, governance models, leasing systems, and use of internal service funds (ISFs) (including cost recovery methods). See [Appendix A](#) for full results.
 - *Industry Standards and Best Practice Research:* Based on the opportunities for improvement identified, we conducted research to ascertain industry standards and best practices from other local government IT departments.
 - *Internal Customer Feedback Survey:* We administered a short survey to division managers and other select staff to better understand their experience with ISD and the CERP Fund. Of the 99 survey requests sent, we received 37 responses, a 37% response rate. While this survey is a useful tool to identify staff sentiment, the results are not statistically significant and are not fully representative because participation was less than 100%. See [Appendix B](#) for full results.
3. **Analysis:** This phase served as the assessment portion of the project where, based on information gathered, we evaluated the importance, impact, and scope of our observations in order to develop recommended efficiency and effectiveness changes.
4. **Reporting:** This phase concluded the project by reviewing draft observations and recommendations with the CIO to validate facts and confirm the practicality of recommendations.



III. COMMENDATIONS

Based on the insights gathered through interviews, survey responses, and document review, it is evident that the ISD has many commendable organizational attributes. Some examples include:

- **Forward-focused leadership:** In general, the Department leadership team is interested and engaged in the process of making positive change to ensure the best possible IT environment for the City and its residents.
- **Dedicated staff:** Based on interviews, many Department staff are dedicated to providing excellent service, take pride in their work, and employ creative problem-solving in the face of challenges.
- **IT Strategic Plan:** The establishment of the cross-functional Strategic Advisory Committee and the related IT Strategic Plan is a positive step toward proactive service delivery.
- **Project Management Office:** The formation of the ISD Project Management Office and the Portfolio Review Board is a strong indication of the Department's commitment to harmonizing IT projects throughout the City.
- **Department-specific technology roadmaps:** ISD has initiated a collaborative process to create department-specific technology roadmaps. Initial departmental response to this effort has been positive.
- **Service Level Agreements:** The Department has made strong progress toward developing Service Level Agreements to better define the relationship between ISD and the other City departments with whom they work. All SLAs are scheduled to be in place before the end of the fiscal year.

We would like to thank staff and leadership within ISD and across the City for their participation in this study.



IV. OBSERVATIONS AND RECOMMENDATIONS

Based on the input gathered from interviews, document review, benchmarking, and surveys, as well as comparisons to best practices, we prepared a comprehensive set of observations and recommendations.

A. GOVERNANCE

IT Governance

1.	Observation	The City does not yet have centralized technology governance.
	Recommendation	Strengthen IT governance by establishing a City-wide governance committee, and consider centralizing IT funding to more effectively manage the City's IT spend.

Strong IT governance enables the alignment of IT services and infrastructure with city-wide strategies and goals. In general, the need for sound IT governance relates to a number of common issues that many organizations struggle to manage unless there is clarity, shared responsibility, and open communication between IT and other City departments. Within the public sector, financial pressures, coupled with increasing demands for efficiencies and effectiveness in service delivery, have led to higher expectations for technology solutions. In the absence of an effective governance structure, the City runs the risk of overspending on technologies that miss the mark with respect to aligning with the goals of the City.

The ISD is currently working to harmonize IT decision-making across the City. Efforts include the creation of the City Technology Plan, the establishment of the Strategic Advisory Committee, Digital Council, and the Change Advisory Committee, the establishment of the ISD PMO office and the Portfolio Review Board, and a wide variety of cross-departmental meetings and check-ins, including the initiation of department-specific technology roadmaps.

However, decision-making processes are still frequently decentralized because ISD lacks formal oversight authority. At times, the ISD is not involved in IT-related decisions or purchases and there are no clear policies or accountability mechanisms to ensure that departments purchase, maintain, and retire hardware and software in accordance with the City's best interest. The lack of robust IT governance has wide-ranging impacts, including:

- Expanding IT costs
- Increasing redundant, inappropriate, or non-strategic technology purchases
- Increasing technical support needs in order to maintain a growing number of devices and configurations
- Heightening threats to cybersecurity due to running outdated software and systems

IT governance should not be viewed solely as an ISD issue. Best practices for tackling IT governance initiatives and implementing governance structures suggest that an enterprise-wide approach should



be adopted, backed by top-level commitment, and managed through a cross-functional committee that has shared accountabilities and responsibilities with ISD.

For the most part, peer cities adhere to these best practices. Five of the six peer cities utilize a governing committee to make decisions about IT purchases and priorities. Three of the six peer cities have committees specifically related to IT decision-making and report that this model works relatively well to serve their department’s needs. Two of the six peer cities incorporate IT decision making into committees involved in City-wide budgeting or priority-setting processes that extend beyond IT. They report mixed results with this model. See [Appendix A](#) for additional peer survey result details.

GOVERNANCE CHARACTERISTICS	PEER A	PEER B	PEER C	PEER D	PEER E	PEER F
IT is primarily responsible for all IT-related purchasing decisions	No	No	Yes	Yes	Yes	Yes
IT decisions are made through a formal committee	Yes	Yes	Yes	Yes	Yes	No
Decision-making committee include representatives from IT only	No	No	Yes	No	No	N/A
Decision-making committee includes representatives from IT and other departments	Yes	Yes	No	Yes	Yes	N/A

To improve and harmonize IT decision-making, the ISD should establish a city-wide IT governance committee. This committee would replace and enhance the current Strategic Advisory Committee, and may or may not take on some functions of the current Portfolio Review Board. When establishing this governance committee, ISD should re-evaluate whether aspects of current governance practices or groups will need to be coordinated or retired. In addition, industry standards and peer recommendations suggest the following key points:

- **Committee Authority:** The committee should establish policies stipulating that all major IT-related decisions and associated budgetary expenditures—including new purchases, software upgrades, and project prioritization—pass through this committee. Ideally, this can be a space for collaborative problem-solving that keeps the needs of the City and its residents at the core of every decision.
- **Committee representatives:** The committee should include representation from the ISD and all other major departments supported by the ISD. This will ensure cross-departmental concerns can be raised and addressed in an equitable way. The ISD may be able to leverage the members of the current Strategic Advisory Committee.
- **Centralized funding:** A committee governance model is most effective when IT spending is centralized. To most effectively make long-term technology decisions that ensure system interoperability, technology expenditures should be centralized.
- **Guiding principles:** Several peers mentioned that establishing guiding principles for technology-related decisions was helpful to build consensus and shared understanding between departments and IT. In addition, principles can be aligned with City-wide values to help strengthen the connection between ISD and City goals.



- **Support from City Manager/leadership:** Most peer cities noted that support from and alignment with their city manager is critical to ensuring collaborative prioritization processes and governance accountability. Multiple peers mentioned, unsolicited, that without this support their attempts to manage IT governance would be greatly compromised.
- **Collaborate with Purchasing:** Multiple peer cities reported working closely with their purchasing division to introduce some amount of checks and balances to the acquisition of IT hardware and software. For example, one peer noted that their purchasing system software automatically flags any purchases with codes related to technology for review by their IT department. Other peers reported success with developing a list of pre-approved equipment, and working with purchasing staff to ensure they review any items not on the list. While some challenges were reported in terms of purchasing department’s levels of knowledge around what would or would not qualify as a technology purchase, most peers reported increased collaboration with purchasing has improved their IT governance processes and accountability. Within the City, the Finance Purchasing team currently notifies ISD when select purchases come through on their queue—for example, IT-related contracts—but this process is not currently designed to be comprehensive of all IT-related purchases. Transparent communication with Purchasing will also be key. For example, some staff noted that it would be helpful to increase transparency around large vendor contracts.

B. FUND SOURCES AND USAGE

ISD Funding Model and Cost Allocation

2.	Observation	ISD is recovering all operating costs. However, Departments report lack of clarity and frustration around charges. Funding for IT hardware, software, and operations at the City comes from a variety of sources.
	Recommendation	<ul style="list-style-type: none"> a. Improve communication of ISD charges within the City’s cost allocation plan. b. Assess cost allocation methodologies to determine whether a different approach would benefit Department customers. c. Consider transitioning to an Internal Service Fund structure.

The ISD is currently structured as a central services department that supports the work of all other divisions within the City. The ISD is funded through inter-departmental charges that are calculated using various allocation bases (see table below). Based on a review of the City’s 2018 Full Cost Allocation Plan, the ISD is recovering 100% of costs that are allocated to non-General Fund departments.

While there were no specific best-practice trends identified in peer city cost allocation methods, allocation based on number of FTEs, number of licenses, and number of devices were common. Peer cities varied widely in the complexity of their cost allocation methods—several reported success using fairly detailed methodologies, while others reported that more simplified methods suited their city’s needs. For example, one peer uses an extremely simple allocation method. They report that, while it was initially challenging to gain departmental buy-in due to concerns over equity, this straightforward methodology has been highly successful in terms of increasing transparency and clarity among departments, as well as reducing administrative costs.



The ISD’s cost allocation plan—which is a subset of the greater City-wide cost allocation plan—was originally developed with several goals in mind, including maximizing cost recovery and ensuring equity by allocating charges to user departments as fairly as possible. The ISD’s current cost allocation model can be described as a hybrid of several models, consisting of per-unit allocations (e.g., number of devices per division), some usage-based fees (e.g., percentage of time by division), and some direct billing (e.g., the direct allocation for the Library). The ISD’s internal service cost allocation methods are defined below by division and service provided.

SERVICE TYPE	ALLOCATION BASIS
IS Strategy and Operations Division - manages the business operations and provides administrative support to ISD.	
IS Division Support	Number of FTEs in the IS Department
Procurement	Number of requests per division
Community Broadband	Directly allocated to ISD Community Broadband
Citywide System Support	Number of devices per division
Rent	Rent per division
Infrastructure and Cloud Services Division - manages the planning, implementation, and operation of the City's IT infrastructure and services.	
Server Admin/Network Support	Number of devices per division
Telecomm Support	Number of phones per division
Library Network	Directly allocated to Library
Digital Transformation and Development - provides technical support and consulting services to City departments in support of data, digitization of processes, and the development of digital solutions.	
Application Development Support	Percent of time by division
Application Dev Support – BBB	Total amount of support to BBB
Customer Support and Experience - responsible for supporting City staff on the use of technology that helps fulfill the City’s mission.	
PC Support/Training Services	Number of devices per division

Despite the ISD’s efforts, Department staff and leadership reported frustration with charges, due to a lack of understanding of how costs are determined. For example, 61% of survey respondents rate their understanding of the bases of the charges their department receives as “Slightly Well” or “Not Well” (see [Appendix B](#) for full survey results). This is further exacerbated by the fact that funding for technology hardware and software enhancements (new purchases), maintenance, replacement, and related services currently comes from a variety of sources—including the CERP Fund, the ISD operating budget, and other department operating budgets. 70% of survey respondents report that it is “Somewhat Difficult” or “Extremely Difficult” to understand their department’s total yearly investment



in IT and related services. In addition, General Fund departments are typically not aware of the costs their department incurs as they are not explicitly charged for the related fees.

Lack of understanding of cost allocation charges is a common challenge for cities since cost allocation is complicated to design, administer, and explain. Without clear and comprehensive outreach and communication, departments will not adequately understand internal service charges and the nexus to services delivered. The perceived lack of clarity and transparency contributes to customer frustration with service charges.

To ensure department clarity and efficient use of staff time, the ISD should consider taking the following steps:

A. Improve communication and presentation of the ISD cost allocation plan.

Currently, the cost allocation plan for all internal or central service departments—including ISD—is prepared and managed by the Finance Department. To improve departmental communication, ISD should consolidate their section of the City-wide cost allocation plan into an accessible, centrally located document. The consolidated plan should include a user-friendly introductory section that clearly explains the goal and priorities behind the cost allocation plan as well as the process for implementing changes. The high-level document should outline on a summary basis all the ISD services that are reimbursed for via cost allocation, direct cost billed to receiving departments, or paid for through the General Fund. This document should also include information about charges related to the CERP Fund. This will assist in demystifying why certain amounts are charged to various departments and bring greater transparency to the overall technology expenses across the City.

B. Assess cost allocation methodologies to determine whether a different approach would benefit Department customers.

The underlying principles of the cost allocation plan are determined by the federal Office of Management and Budget (OMB) Uniform Guidance. Utilizing those principles, the ISD should reassess cost allocation methods to determine whether a different approach would benefit customers.

The cost allocation options mentioned above are categorized in the table below. Options were evaluated based on a set of accepted economic and public policy criteria, including efficiency, (cost of administration), equity (fairness across departments), and simplicity (how easy the basis is to understand). Ease of internal service department cost recovery was also assessed.

BASIS	EQUITY	SIMPLICITY	EFFICIENCY	COST RECOVERY
Standardized per-unit allocation	Low	Medium	High	Low
Tailored per-unit allocation	Low-Medium	Medium-High	High	Medium
Per-unit allocation, and some usage-based charges	Medium	Low	Medium	Medium
Direct bill fully burdened hourly costs	High	Low	Low	High

As noted above, ISD currently uses a hybrid cost allocation model. If the ISD is interested in shifting their cost allocation method, an impact analysis should be performed to assess the financial



consequences of changing methodologies. For instance, an increase in simplicity will likely, by nature, decrease equity. Shifting costs could also affect reimbursements. Assessing the fiscal and service delivery impacts on departments and developing allocation calculations is often most effectively performed by an external contractor in conjunction with the Auditor-Controller.

C. Consider transitioning to an Internal Service Fund structure.

An ISF is essentially a central service department that recovers costs via cost reimbursement as services are provided via invoicing or direct billing. Internal service rates charged out to departments typically include:

- Operational costs
 - Salary and benefits of ISF personnel
 - Operational expenses (service and supplies)
 - Allowable indirect costs (department)
 - A-87 costs (other central service department costs)
 - Working capital/operating reserve
- Retained earnings from prior year
 - Unreserved surplus or deficit from the prior year

The County of Fresno has identified the following advantages and disadvantages of using an ISF model.²

ADVANTAGES OF USING ISF MODEL	DISADVANTAGES OF USING ISF MODEL
<ul style="list-style-type: none"> • Transparency: The rate development process should openly disclose the projected units of service and/or product to be provided with the projected expenditures (type and dollar amount) necessary to provide the service and/or product. • Efficient use of resources: The use of an ISF segregates financial reporting for ISF operations from the rest of the Central Service Departments that should enhance responsiveness to changes in demand. • Encourages long-term planning: The ISF should consider the cost of repairing and/or replacing equipment in the development of rates. Allows the operation to plan for retirement of ISF assets. • Better management and control: The development of rates provides a tool to compare ISF rates to comparable services provided by the private sector for competitive analysis. • Aids management in identifying where operational inefficiencies may be: These include inefficient output per unit of input, cost 	<ul style="list-style-type: none"> • Lack of flexibility: The ISF may not be able to adjust rates timely to reflect changes in demand (in tight budgetary times users may postpone use of services and/or products until later in the budget year thus giving a “false” demand reading at mid-year). • User uncertainty about ISF rates: It can be challenging for user department to estimate ISF rates from year to year for their budgeting/planning purposes as many ISF input variables are not readily available or projectable, including salary and benefits changes, ISF staffing levels, reserve levels, and demand from other users. • Potential for “excess reserves”: The management of the ISF may develop rates with an aggressive replacement/repair program but not spend the reserves in accordance with program terms, thereby accumulating reserves in excess of what is required to operate the ISF. The users of the ISF would have then been overcharged for the services and/or products

² The County of Fresno
www2.co.fresno.ca.us/0110a/Questys_Agenda/MG169628/AS169651/AS169653/AI169616/DO169617/DO_169617.PDF



ADVANTAGES OF USING ISF MODEL	DISADVANTAGES OF USING ISF MODEL
effectiveness of inputs to generate output, and cost structure of inputs.	<p>received. This can be mitigated by offering departmental subsidies in following years.</p> <ul style="list-style-type: none"> ● Lacks economy of scale: The ISF may be unable to provide competitive rates as compared to the private sector due to a smaller customer base and/or product volume.

Five of the six peer cities have established their IT department as a full ISF. Two peers have transitioned to this model within the past several years. All peers who are established as ISFs report that this model is preferable to functioning as a central service department. In particular, peers noted the following benefits associated with this model include:

- **Promotes transparency around funding.** Although several peers report that the transition to an ISF required a lot of communication with departments, they generally noted that the ISF structure, especially when combined with a simplified allocation basis, has improved the transparency around their city’s full technology investment.
- **Provides more flexibility to the IT department.** For example, when functioning as a central services department, unused resources are returned to the General Fund. Within the ISF structure, unused resources are kept within the ISF and can be appropriately reallocated to support City-wide technology.
- **Structurally well-aligned to promote strong IT governance.** By centralizing all IT spending into one area and promoting a 100% cost recovery goal, the ISF model both requires and supports strong governance practices.

Based on the advantages of functioning as an ISF and the local peer trend, ISD should consider the option of transitioning to a full ISF model. As part of adopting the ISF model, ISD could choose to centralize all IT-related expenditures into the ISF structure—including those currently managed within departments. This would increase the visibility of the City’s overall IT expenditures and allow for more comprehensive planning. Either way, it is important to note that this model relies on strong, established governance practices (Recommendation #1) to ensure adequate collaboration and accountability between departments.

However, there are challenges associated with this method, primarily related to departmental buy-in and ISD staff capacity to manage the full range of devices and services. Due to these issues, one peer city that current operates with a fully centralized expense model is working to devolve department-specific software costs and maintenance back to individual departments. As such, as part of the ISF transition process, ISD would likely want to complete a department-by-department assessment to determine which specific assets and software should be incorporated into the ISF model.

Transitioning to an ISF model would require upfront staff investment, and potentially the support of an outside expert who can help the Department establish the new structure effectively and efficiently. This transition would also impact other department’s workloads to varying degrees. For example, the Finance Department would need to be highly involved in the transition and would provide some degree of ongoing support for this model. Given this burden, the decision of whether or not to transition to an ISF model should be made in coordination with all impacted departments. This is



particularly important within the current City operating environment, as staff report some concerns as to whether an ISF model could decrease transparency, accountability, or collaboration.

In addition, the ISF model may require additional staff within ISD to support new, ongoing functions. In turn, it would alleviate work for other departments. For example, if all technology-related contracts were managed through ISD (rather than individual departments), this would require increased staff support within ISD.

If ISD transitions to an ISF model, the CERP Fund would likely remain as a separate fund. Five of the six peer cities operate a separate equipment replacement fund, regardless of ISF status. Peers report this is helpful to both guarantee adequate funds for replacements and ensure transparency around charges. However, ISD should consider earmarking non-replacement expenses currently managed through the CERP (like maintenance, annual software subscriptions, and technology enhancements) and incorporating those into the ISF model. That way, replacement and reserve costs would be more clearly delineated and protected within the CERP.

CERP Funding Model and Cost Recovery

3.	Observation	The CERP fund is not fully recovering direct costs or collecting comprehensive replacement reserves.
	Recommendation	Establish a cost recovery goal, adjust charges to capture full direct costs of equipment, and initiate the collection of additional reserve funds.

The CERP Fund covers costs related to *replacement* of end-user computing systems, data center equipment and services, and network infrastructure. In addition, it covers *annual maintenance and renewals* of subscriptions, and *enhancements* (primarily new equipment purchases) for end-user computing systems, enterprise software, information security, data center equipment and services, and network infrastructure.

The CERP Fund is supported by annual internal service contributions from other funds, with the vast majority of the funding coming from the City’s General Fund.³

FUND	FY 2018—19
General Fund	\$1,618,144
Beach Recreation Fund	\$17,728
Housing Authority Fund	\$8,220
Water Fund	\$49,031
Wastewater Fund	\$39,154
Pier Fund	\$2,360

³ Source: City of Santa Monica 2019 CIP Budget.



FUND	FY 2018—19
Resource, Recovery, Recycling	\$34,330
Airport Fund	\$16,454
Cemetery Fund	\$5,500
Vehicle Management Fund	\$14,879
Risk Management Admin Fund	\$22,908

However, the CERP Fund is not fully recovering its direct costs for software and hardware provided to departments. Staff report that notable exceptions to full cost recovery include:

- Funding for annual software subscriptions provided to enterprise funds (e.g., Big Blue Bus)
- Full costs of annual subscription software (e.g., Microsoft licenses)
- Full costs of computer and laptops
- Cell phone replacement and annual costs associated with Mobile Device Management (MDM) software
- Desk phone replacement costs and annual associated licensing and support

To account for the full direct cost of hardware and software, the ISD should establish a 100% cost recovery goal for the CERP Fund. Charges should also be adjusted to capture the comprehensive cost of providing equipment.

In addition, the CERP Fund is not currently collecting replacement/reserve funding for enterprise software or information security. While software is generally trending toward subscription-based models, which have significantly lower replacement costs, the lack of any reserves is likely to create a budget shortfall within the fund when replacements are required. The ISD should forecast an appropriate replacement level and begin reserving those funds for future use.

These actions will improve the long-term sustainability of the CERP Fund along with providing increased visibility for all related technology expenditures.

C. INTERNAL SERVICE DELIVERY

Staffing Levels

4.	Observation	The ISD’s technical support team is understaffed given the current workload.
	Recommendation	Reduce the technical support workload by increasing staff and/or decreasing the complexity of the IT environment.

The ISD’s current ratio of full-time technical support staff to city employees is 1:465—with five full-time Computer Support Specialists and Computer Support Technician II positions serving



approximately 2323 FTE positions.⁴ If the Department filled the two vacant support positions, the ratio would decrease to 1:332. Industry standards commonly recommend ratios ranging between 1:150-1:250, depending on the complexity of the IT environment. Peer cities have estimated ratios of support staff to end users ranging between 1:75 to 1:236, with an average ratio of 1:174. While 56% of survey respondents rated the ISD's service responsiveness at "Extremely Satisfied" or "Somewhat Satisfied," a number of respondents mentioned issues with receiving timely support. Given this context, the ISD technical support team is understaffed.

Growth in City-wide FTEs has partially contributed to this issue. Within the past five years, the number of budgeted support staff positions has remained steady, while city-wide FTEs have increased by 120 positions. While support needs vary by staff role and many of the new positions do not require substantial technical support (for example, positions that do not use laptops or computers as part of their daily work), the general trend has been an increase in the support staff ratio.



FISCAL YEAR	ISD BUDGETED SUPPORT STAFF FTES	CITY-WIDE FTES	RATIO
2014-2015	7	2,203	1:315
2015-2016	7	2,269	1:324
2016-2017	7	2,325	1:332
2017-2018	7	2,329	1:333
2018-2019	7	2,323	1:332

The tech support team is tasked with managing a highly complex IT environment. In particular, there is a wide variety of enterprise systems utilized across the City. For example, ISD is currently tasked with supporting seven separate payment systems. These highly specialized systems require substantial staff investment to maintain and trouble-shoot. Lacking economy of scale, each new system further taxes the support staff workload.

⁴ The staffing ratios included here are estimates, as they are based on FTEs, rather than a full count of supported end users. While we could not get an exact end-user count, ISD currently supports 3,006 Microsoft Office licenses. Using that number as an approximate count, the ratio of technical support staff to end users would be closer to 1:601.



In addition, the ISD intentionally offers a larger than average range of devices and configurations to support City staff. For example, the ISD currently supports two operating systems (Microsoft Windows and Apple iOS) for desktop and laptop computers, in addition to a variety of computer brands and configurations. This situation has been exacerbated by the ISD's lack of authority to require Departments to use updated software and the presence of untracked shadow technology.

While offering staff and departments a choice in their technological equipment can provide value, it has created a diverse and, often inefficient, technological environment. Taken as a whole, the tech support team is supporting a continually increasing volume and complexity of equipment.

The ISD has several options to help reduce the technical support staff workload:

- **Hire additional support staff:** The current staffing ratio is ultimately unsustainable. Hiring one additional FTE (along with filling the two vacant support positions), would reduce the staffing ratio to 1:290. Hiring two additional FTEs would reduce the staffing ratio to 1:258, bringing the ISD much closer to both peer and industry standards.
- **Reduce the complexity of the IT environment:** Several peers mentioned that greater simplification of their IT environment had increased the efficiency of their department. ISD could pursue the option of further standardizing the City's technical environment (for example, by reducing the number of enterprise systems, or supporting only one operating system). Another possibility would be to establish a policy requiring departments to operate up-to-date software—thus reducing the number of software and configurations the team supports. While this would likely increase departmental spending on software (especially given the industry move toward subscription-based pricing, rather than single purchases), ISD staff report that it could result in more efficient use of staff time and help protect against cybersecurity risks.
- **Outsource select services:** Staff report that some outsourced services related to equipment replacement are being piloted this year. Depending on the outcome, the ISD may want to explore the option of outsourcing additional services as a means to reduce staff workloads. However, in general, the more complex the environment, the more it costs to outsource support. As such, the ISD may want to delay a full analysis of this option until further standardization has taken place.
- **Invest in a high-performing team:** Two peer cities reported that they actively use a strategy of hiring high-performing technical support staff. They accomplish this by having clear measures of success for each role, paying above market rates, hiring more senior-level staff, and striving to offer good work/life balance and other benefits. They believe investing in a high-performing team increases team efficiency and strengthens inter-departmental relationships. For example, one peer reported that after instituting this strategy, they now have 40-50% request completion rates on the first call to the support desk.

Recently, the Department has worked to secure a contract with Zones, LCC to provide Network Operations Center (NOC) and afterhours helpdesk services. Once this contract is implemented, Zones, LCC will deliver around-the-clock monitoring of critical municipal systems—including those for safety, transportation, traffic, and utilities. This service is expected to decrease system downtime, improve security, and increase the City's incident response capacity. In addition, the contract will offer basic afterhours helpdesk support to departments that work outside of regular business hours. While this afterhours service will not decrease current support staff workloads, it will provide enhanced support services to City staff. Taken as a whole, the new contract represents a positive increase in operational resilience and an enhancement to support services. However, it is not expected to substantially reduce support staff workloads.



In order to provide a high level of quality customer support, the ISD should take steps to ensure their technical support team is adequately staffed in relation to workload. While a combination of the strategies mentioned above may be the best option, the ISD should strongly consider hiring at least one additional support staff FTE.

Communication

5.	Observation	Department staff report a lack of clarity around ISD processes, priorities, and charges.
	Recommendation	Take steps to strengthen and clarify communication with departments.

Survey respondents report a wide range of opinions about the ISD’s communication practices. For example, 45% report being “Extremely Satisfied” or “Somewhat Satisfied” with the effectiveness of the ISD’s communication efforts, while 41% report being “Extremely Dissatisfied” or “Somewhat Dissatisfied.” Common themes include confusion over charges, lack of respondent knowledge of the full cost of equipment (for example, equating purchase price with ownership cost), and frustration around a lack of communication about technology roll-outs that impact departmental work.

Frequent, transparent communications about operational changes, costs, staffing, vendor contracts, and priorities will build trust between departments. Transparency begets accountability, and customers are more likely to be flexible and collaborative if they understand the context for decisions. Trust on both sides of the customer service relationship will improve the utilization, efficiency, and effectiveness of service delivery.

In addition to creating specific materials and trainings to better communicate ISD and CERP funding models, charges, and vendor contracts (Recommendation 2 and 3), the ISD should consider developing monthly reports to each department that includes performance metrics to help communicate the outcomes and value departments receive. A short list of sample metrics is provided in [Appendix D](#).

The ISD should also continue work to leverage the embedded Business Analysts to strengthen departmental relationships and collaboration. Some staff report that Business Analysts vary widely in terms of their conception of their role and the services they provide to departments. For example, one staff member noted that while some Business Analysts see themselves as an active partner tasked with bridging the gap between the ISD and department needs, others see themselves in a more passive role. The ISD should revisit the roles and responsibilities of this staffing group to ensure all members of the team are contributing in an aligned and efficient manner. This may involve additional staff training and support around developing skills like project management.



D. SYSTEMS, POLICIES, AND PROCEDURES

Data Center

6.	Observation	The ISD operates a dedicated data center to support operations across the City.
	Recommendation	Develop a transition strategy to move toward a more flexible hybrid model that can better accommodate the City's future needs.

Across the public sector, there are four main approaches to data center management:

- Operating a dedicated in-house data center
- Utilizing cloud-based approaches operated by a private organization
- Adopting a shared services/community cloud model approach
- Outsourcing all data center management to a private organization

Currently, the ISD operates an on-premises dedicated data center to collect, store, process, and disseminate data that support daily operations across the City. The data center is housed in City Hall and was added in 2010 as part of the Seismic Retrofit project. Six staff members are involved with maintaining the data center.

The ISD's choice to run a proprietary data center is in line with common practices in the public sector. A survey by the Center for Digital Government found that 70% of state and local governments manage their own dedicated data centers, although interest and utilization of other data center models is increasing.⁵ Enterprise data centers have some important benefits, primarily the level of control over technology and security that it provides the City.

However, dedicated data centers require high levels of staff support as continuity and uptime is critically important. The cost of running an on-premises data center can also be considerable when accounting for infrastructure, power, staff time, license agreements, security, and maintenance. Proprietary data centers can also present emergency preparedness challenges. For example, running a backup facility of secondary center to provide support in the event of a power outage or disaster can be crucial for service delivery, but is also expensive.

Given the shortcomings of dedicated data centers, there has been a movement across both the private and public sectors to explore new models. Within government, there has been a strong trend toward focusing on consolidation and optimization of data centers by shifting toward cloud-based approaches—most notably spearheaded by the Government Services Administration's 2016 Data Center Optimization Initiative.

Cloud-based approaches are recognized as an important way to free up staff time and shift more IT resources from back-office activities to value-added services. Depending on the context, cloud-based approaches can also reduce operations and maintenance expenses to provide significant cost

⁵ GovTech Definitive Guide to Data Centers <https://www.govtech.com/library/papers/Definitive-Guide-to-Data-Centers-1425.html>



savings. However, full cloud-based systems are not yet viable due to continuing security concerns. For example, the Federal Risk Authorization and Management Program, which sets standards for cloud security, has only begun authorizing cloud services for data that requires higher-security thresholds in recent years.

Within this context, many national and local governments are focused on adopting hybrid models that use both dedicated physical servers and cloud solutions for data management. This can provide a best-of-both-world solution that optimizes current investments, reduces costs, and takes advantage of opportunities provided by cloud-based approaches.

The ISD should develop a data center transition strategy that focuses on shifting toward hybrid operations. This can be done in a phased approach, where the benefits and viability of cloud-based solutions are considered during every system upgrade, enhancement, or replacement decision.

The cost of migrating to a cloud-based approach depends on many factors, including the structure and age of the system that will be transitioned. Regardless, the ISD and City leadership should expect initial migration costs to be high, both due to the upfront expense of transitioning a given system, and the need to run both the new and old system in parallel for a period of time to ensure continuity and security. However, as the technology landscape is ever-shifting, adopting an adaptable data center strategy will be essential for the ISD to remain responsive to City needs.

Asset Management

7.	Observation	The IT asset management system is not adequately meeting ISD and City needs.
	Recommendation	Support a comprehensive IT asset management system by procuring asset management software and clarify related roles and responsibilities.

Asset management is a critical component in managing the life cycle of IT hardware and software throughout the City. Asset management systems typically address four areas:

- Asset discovery, data capture, and storage
- Asset tracking
- Asset lifecycle management
- Asset reporting

Staff report that the ISD’s asset management practices have not historically met the needs of the Department or the City. The lack of an adequate asset management system (in combination with limited IT governance practices) has resulted in an unknown level of shadow technology into which the ISD has limited visibility. For example, although the ISD has close to 1,700 active computers in their records, staff report that the actual number of computers in use across the City could be as high as 2,000.

Without a functional asset management system, it is not possible to clearly track or support IT equipment across the City. This has implications for IT staffing workloads, as it is not possible to calculate appropriate ratios of support staff to equipment. Shadow technology can also present risks



to cybersecurity, as untracked assets may not be maintained or protected against external threats or breaches.

Efforts to create a more effective system are underway. Currently, the ISD is planning to use the ServiceNow Asset Management module to fulfill their system needs, although the system has not yet been purchased. In addition, the ISD has assigned responsibility for the asset management function to a Computer Support Technician II role. All known IT hardware is tagged and tracked with a user-friendly barcode that indicates the equipment’s replacement date.

The ISD should continue work to procure and implement an adequate software system. In line with industry best practice, the system should be able to track the full life cycle of each asset—from initial request to final disposal. In parallel, the ISD should document relevant policies and procedures that clarify specific role responsibilities.

Ideally, the staff member managing this function would perform both the day-to-day project coordination to keep the asset portfolio up to date, and the analysis of asset-related data in order to share relevant information and insights with ISD leadership. For example, the ISD may wish to track indicators like ratio of used to purchased equipment/licenses or early replacement by equipment type. Given the high workload of the support team (Recommendation 5), the ISD should consider how best to ensure that adequate staff time is allocated to sustain this vital function.

Another area of consideration is the possible alignment between ISD and City needs. Currently, there is no asset management system used across the City as a whole. The asset management system purchased by ISD could potentially fill this gap. In addition, City leadership may want to consider the benefits of establishing a dedicated asset manager position. This role could be located in variety of departments (including ISD or Finance) and would oversee asset management for the City as a whole.

Asset management is an important part of any IT department's strategy. By maintaining a comprehensive inventory of their hardware and software asset portfolio, the ISD will be able to make more strategic decisions about purchasing, maintaining, replacing, and retiring IT assets.

Leasing

8.	Observation	The ISD does not employ a leasing strategy for IT equipment.
	Recommendation	The ISD should consider a selective leasing strategy for specific areas of equipment where leasing may provide a higher benefit than ownership.

In general, the ISD does not employ a leasing strategy for IT equipment. With some minor exceptions for highly specialized equipment (for instance, electronic parking meter machines) the City purchases all necessary IT equipment. This is in line with peer cities, as none of the six peer cities employ a leasing strategy for computers/laptop equipment. In addition, only three of six employ a leasing strategy for other technology equipment.



However, leasing can provide some useful benefits under specific circumstances. The General Services Administration notes⁶ that leasing may be the preferred option if:

- Technology replacement according to industry life cycles is needed
- Agencies are undergoing downsizing or reorganizing
- There is a business need for quick adoption of new technologies
- The flexibility of spreading out payments and using operating funds (rather than capital funds) would be beneficial

ADVANTAGES TO LEASING	DISADVANTAGES TO LEASING
<ul style="list-style-type: none"> • Systematic technology replacement. Agencies can establish equipment life cycles and stick to them. New equipment can be obtained, then returned to the vendor when the lease contract ends. Staff time spent maintaining different systems and machines can be reduced. • Leveled IT expenditures, reducing spikes in capital budgets. Leasing is considered an operating expense and spreads costs over time, rather than requiring repeated, large expenditures in particular fiscal years for hardware and software upgrades. • Standardization. Good leasing contracts can help organizations standardize on particular platforms quickly and consistently. This results in savings for staff labor and maintenance, and improves agency operating efficiency, even if there are no spectacular savings in acquisition costs. Total maintenance costs can be lowered due to the standardization and to the use of new equipment. • Easier equipment disposal. With leased equipment, the vendor, as the asset owner, assumes disposal responsibility. • Shift in view of technology. Leasing can encourage viewing IT equipment as business tools, rather than as state assets with expected longevity or as a personal preference for the employee. 	<ul style="list-style-type: none"> • Administrative burden to track equipment and deal with vendors. All leased equipment remains the property of the vendor, so agencies must remain aware of where each piece is and what the return requirements are. Inefficiencies in asset management will prove costly in a leasing environment. • Risk of signing a multi-year contract committing to one technology or one vendor. This could limit agencies' abilities to deploy and use IT effectively. Locking into a specific vendor could make it difficult for the agency to respond to unforeseen needs due to legislative mandates, federal requirements, or business changes. • Changes and modifications to leased equipment should be minimized. These will place additional burdens on contract management and add to the cost of the lease. • It is usually critical to adhere to the industry life cycle in order to obtain the most cost-effective lease possible.

Alternatively, GSA notes that purchasing may be the preferred option if:

- PC equipment is to be used for longer than three years (Note: If the useful life of PCs or laptops is calculated as five years or more, leasing is highly discouraged.)
- The agency does not have staff and systems to track assets and manage the lease
- A technology architecture is not in place
- Funding is uncertain so that the full term of the lease cannot be met

⁶ Lease vs Purchase Guideline for Information Technology (IT) Hardware
<https://cmls.gsa.gov/servlet/servlet.FileDownload?retURL=%2Fapex%2FCMLSPubCategory%3FsearchKey%3D05-16-00319&file=00Pt0000001REvHEAW>



ADVANTAGES TO PURCHASING	DISADVANTAGES TO PURCHASING
<ul style="list-style-type: none"> • Wide familiarity and acceptance with purchasing requirements, skills, and techniques. • Responsibilities and management systems for purchased equipment already exist in state organizations. • Purchasing avoids the complexities involved with managing leasing agreements. • Ability to keep equipment for as long as it is needed and to modify it as needed. 	<ul style="list-style-type: none"> • May hinder your agency's ability to take advantage of technological advances when the technology becomes available. • Ties your agency to expensive upgrades of equipment that may become obsolete quickly and thus will be unable to meet agency needs. • Using different levels of equipment and software may require more IT staff time to be spent on repairs than on projects, requires greater knowledge sets among IT employees, and may decrease the ability of employees to exchange information. • Equipment disposal can be time-consuming and costly. • Up-front costs may have adverse impact on agency budgets. • Capital-intensive expenditures for IT with decreasing life cycles

Adopting a wide-spread leasing strategy is likely not the optimal choice for the ISD for a variety of factors, including the length of computer replacements (currently scheduled at four-year intervals), the lack of a widespread business need to adopt new technology as quickly as possible, and the current state of asset management.

However, the City may want to consider a selective leasing strategy that focuses only on equipment that requires frequent maintenance and/or is likely to need regular upgrades to avoid obsolescence. For example, library computers may be a strong candidate due to high usage that results in continual maintenance. If the ISD is interested in exploring selective leasing, [Appendix C](#) provides a list of key guiding questions to assess organizational needs in relation to leasing.

By analyzing the City's IT asset portfolio to identify leasing opportunities, the ISD may be able to find cost savings and efficiency gains.

Policies and Procedures

9.	Observation	Key ISD policies and procedures have not been established or documented.
	Recommendation	Establish clear policies and procedures to support service delivery, collaboration, and accountability.

Up-to-date policies and procedures can improve departmental efficiency and effectiveness. In addition, clear documentation to guide operations can improve cross-departmental communication by defining service standards, managing expectations, and offering consistent services.

Some areas of ISD work have well-documented policies and procedures. For example, the newly established Portfolio Review Board has documented processes and procedures related to project selection criteria, scoring, and workflow.



However, ISD has not yet established or documented policies or procedures in a few key areas, including:

- **Governance:** Document IT authority and decision-making processes in a holistic and easy-to-understand format.
- **ISD Cost Allocation:** Document cost allocation to clarify the process for departments.
- **CERP Fund:** Document policies and processes related to departmental charges, replacement coverage (what specific hardware and software are incurring replacement costs), cost recovery, and fund reserves.
- **Contracts:** Document policy clarifying the role that ISD plays in contract development and management.
- **Asset Management:** Document policies and procedures related to asset inventory coverage (what specific hardware and software are managed through the system), roles and responsibilities, handling of shadow technology, replacement schedules, and all additional processes related to the full life-cycle management of an asset from request to disposal.

The ISD should create a small cross-functional policy and procedures development team to inventory current documentation, determine what additional documentation needs to be created, and establish a prioritized schedule for developing and updating policies. This team should also ensure that all ISD policies are consistent with city-wide policies. Once policies and procedures are updated, they should be available in a centralized location, such as an intranet, for employees to easily reference. As policies and procedures often live in many dispersed places, the team will need to get creative in order to develop an organized, easy-to-navigate repository.

Establishing clear policies and procedures will help the ISD ensure efficient service delivery, improve collaboration with department partners, and create an environment of healthy accountability.



APPENDIX A: PEER SURVEY RESULTS

IT GOVERNANCE MODEL

Governing Committees

Of the six peer cities, five cities utilize a governing committee to make decisions about IT purchases and priorities. Three of the cities have committees specifically related to IT decision-making. All three cities report that this model works relatively well to serve their department’s needs.

Two peers incorporate IT decision making into committees that are involved in city-wide budgeting or priority-setting processes that extend beyond just IT. Only one of these peers report this is an optimal situation, and note that extremely strong alignment between city leadership and department heads around a shared set of guiding principles is key to making this successful. The other peer reported some challenges with IT-related decisions being made outside the control of IT.

The last peer city operates without a formal committee, which they report is a successful model for their city. However, when new projects arise, they note their CIO brings together ad hoc groups of relevant city leaders depending on the nature of the project in question. This city also operates with an extremely standardized equipment environment, which may allow for less formal decision-making processes to succeed.

	PEER A	PEER B	PEER C	PEER D	PEER E	PEER F
IT is primarily responsible for all IT-related purchasing decisions	No	No	Yes	Yes	Yes	Yes
IT decisions are made through a formal committee	Yes	Yes	Yes	Yes	Yes	No
Decision-making committee include representatives from IT only	No	No	Yes	No	No	N/A
Decision-making committee includes representatives from IT and other departments	Yes	Yes	No	Yes	Yes	N/A

Project Solicitation Process

Peers report a range of project solicitation processes, with some working on a continual basis and others soliciting projects on a more strict annual schedule. For example, one peer solicits projects throughout the year (via an online form), which are then reviewed on a weekly basis by their governing



committee. Alternatively, another peer reports that project solicitation is an annual event, with all departments proposing projects to be prioritized.

Checks and Balance with Purchasing

Multiple peer cities reported working closely with their purchasing division to introduce some amount of checks and balances to the acquisition of IT hardware and software. For example, one peer noted that their purchasing system software automatically flags any purchases with codes related to technology for review by their IT department. Other peers reported success with developing a list of pre-approved equipment, and working with purchasing staff to ensure they review any items not on the list. While some challenges were reported in terms of purchasing department's levels of knowledge around what would or would not qualify as a technology purchase, most peers reported increased collaboration with purchasing has improved their IT governance processes and accountability.

Departmental Relationships

All peer cities noted that building strong, collaborative relationships with departments was a vital component in successful IT governance. Various peers have worked to accomplish this in different ways—including embedding staff directly within departments, assigning support staff to specific departments, building out technology roadmaps with departments, ensuring their support staff are highly qualified to provide efficient service, and developing service level agreements to clarify roles and responsibilities. No trends emerged on specific best practices; what works well in terms of relationship building is highly context specific.

Alignment with City Manager

Most peer cities noted that support and alignment with their City Manager is critical to ensuring collaborative prioritization processes and governance accountability. Multiple peers mentioned, unsolicited, that without this support their attempts to manage IT governance would be greatly compromised.

INTERNAL SERVICE FUND AND COST RECOVERY

Five of the six peer cities have established their IT department as a full ISF. Two peers have transitioned to this model within the past several years. All peers who are established as ISFs report that this model is preferable to functioning as a central service department. Reported benefits associated with this model include:

- **Promotes transparency around funding.** Although several peers report that the transition to an ISF required a lot of communication with departments, they generally noted that the ISF structure, especially when combined with a simplified allocation basis, has improved the transparency around their city's full technology investment.
- **Provides more flexibility to the IT department.** For example, when functioning as a central services department, unused resources are returned to the General fund. Within the ISF structure, unused resources are kept within the ISF and can be appropriately reallocated to support City-wide technology.



- **Structurally well-aligned to promote strong IT governance.** By centralizing all IT spending into one area and promoting a 100% cost recovery goal, the ISF model both requires and support strong governance practices.

Four out of six peer cities report they have a 100% cost recovery goals for operations and hardware/software maintenance and replacement. One peer reported 100% cost recovery goal for hardware/software maintenance and replacement, but incomplete cost recovery for operations (for example, salary expenses are fully recovered, but not other types of administrative costs like rent). The only peer that does not have a cost recovery goal is also not structured as an ISF.

EQUIPMENT REPLACEMENT FUND

Five of the six peer cities operate a separate equipment replacement fund, regardless of ISF status. Peers report this is helpful to both ensure adequate funds for replacements and guarantee transparency around charges.

IT SUPPORT STAFF

Peer cities report a range of support staff FTE to city employee FTE end users from 1:75 to 1:236, with an average ratio of 1:174. Out of five peers who noted their satisfaction with their ratio, three peers felt their staffing levels were adequate to fulfill their needs. Two peers noted the desire to expand their team, although these were not the peers with the highest ratios. This suggests that other factors—including level of IT environment complexity, staff skills, and effective management— influence the effectiveness of support teams, regardless of size.

Two peers reported that they actively use a strategy of hiring extremely high-functioning technical support staff (incentivized by paying above market rates and striving to offer good work/life balance and other benefits). Their goal in making this investment is ensuring strong inter-departmental relationships. For example, one peer reported that after instituting this strategy, they can now assure 40-50% request completion rates on the first call to the support desk.

COMPLEXITY OF IT ENVIRONMENT

Several peers mentioned that greater standardization of their IT environment (both in terms of hardware and software) had increased the efficiency of their department. Three of five who answered this question support only one brand for desktops and laptops, and none reported supporting more than three brands. The majority of peers also reported supporting only one operating system (primarily Microsoft Windows).

	PEER A	PEER B	PEER C	PEER D	PEER E	PEER F
# of Computer Brands Supported	2 (Lenovo, HP)	1 (Dell)	1 (Toshiba)	N/A	3 (Dell, Lenovo, Panasonic)	1 (HP)



EQUIPMENT LEASING

None of the six peer cities reported using a leasing strategy for their computers (desktops and laptops). Three of the six peers do report using selecting leasing strategies for non-computer equipment.

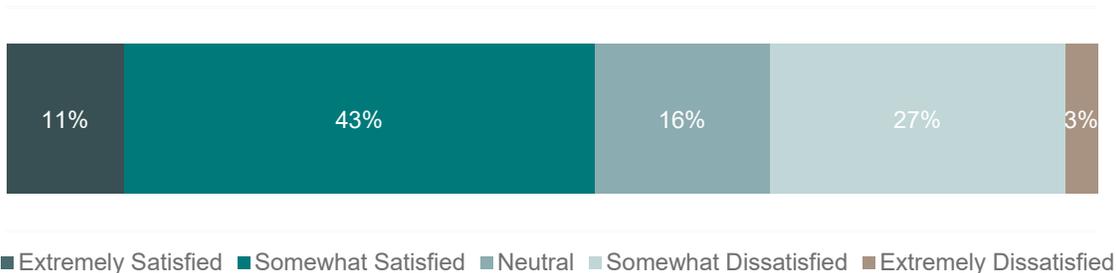
	PEER A	PEER B	PEER C	PEER D	PEER E	PEER F
Leasing for Computers	No	No	No	No	No	No
Leasing for Other Equipment	Yes	No	No	Yes	Yes	No



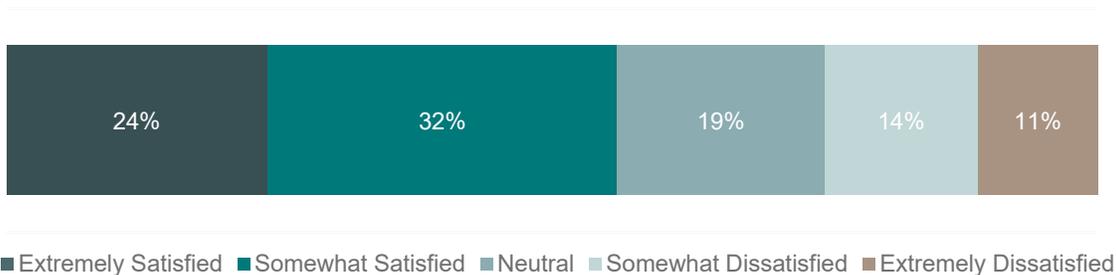
APPENDIX B: INTERNAL CUSTOMER SURVEY

Division managers and other selected staff positions were invited to participate in a confidential survey that asked about their experience with the CERP Fund and the ISD. Of the 99 survey requests sent, we received 37 responses, a 37% response rate. While this survey is a useful tool to identify staff sentiment, the results are not statistically significant and it is not fully representative because participation was less than 100%.

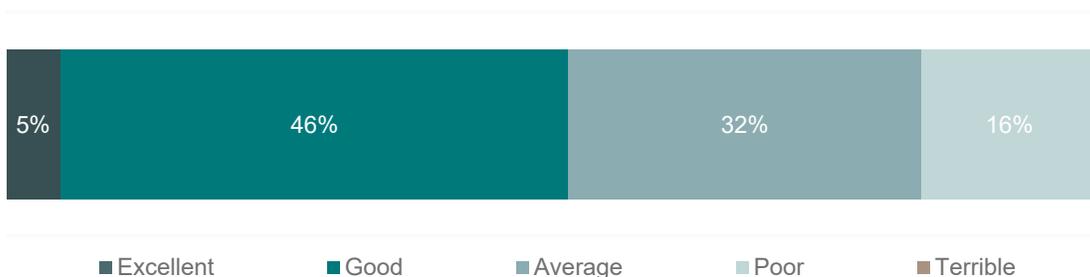
1. What is your overall level of satisfaction with the quality of services provided by the ISD?



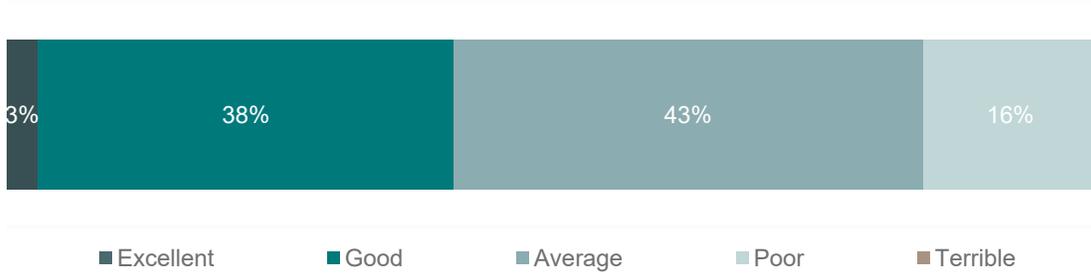
2. What is your overall level of satisfaction with the responsiveness of services provided by the ISD?



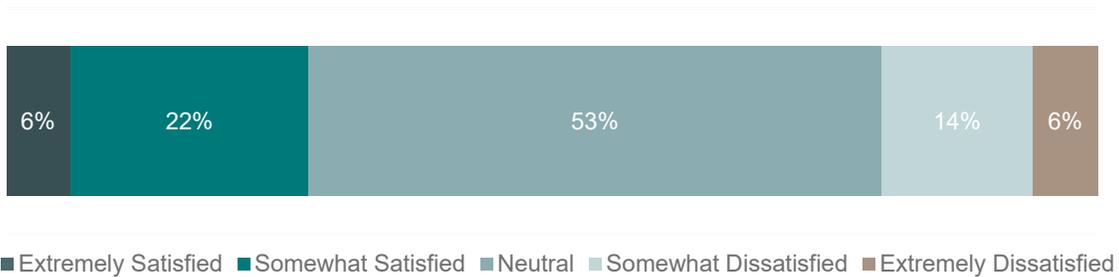
3. How would you rate the relationship between the ISD and your department?



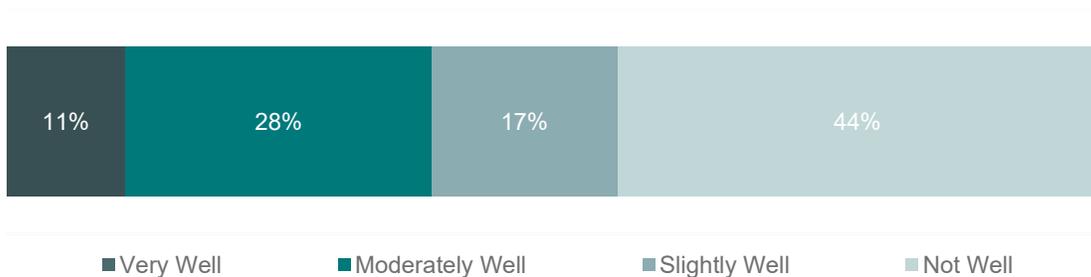
4. How would you rate the level of collaboration between the ISD and your department?



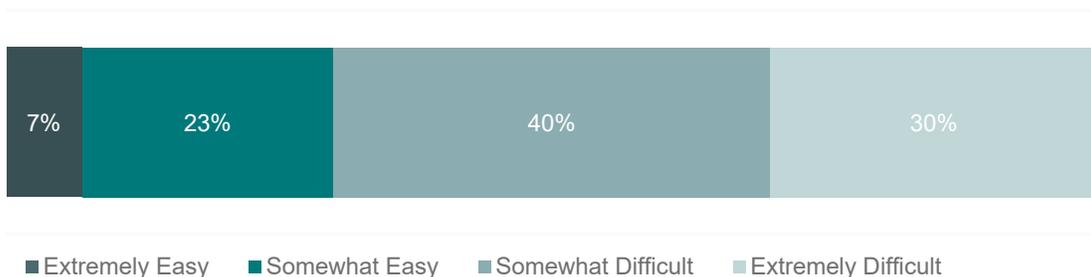
5. What is your overall satisfaction with the cost of services provided by the ISD and the Computer Equipment Replacement Program (CERP)?



6. How well do you understand the basis for the charges you receive?

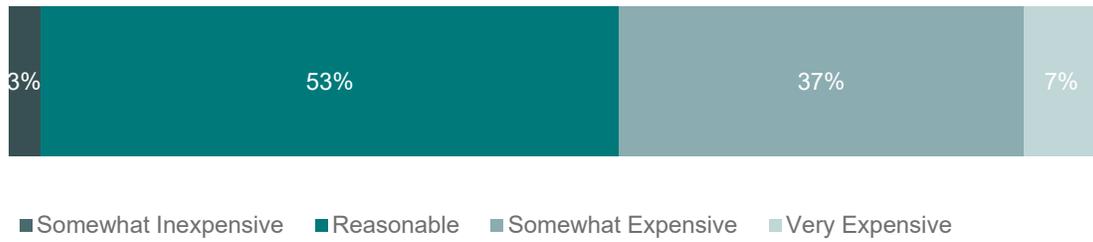


7. How easy is it for you to know your department's total yearly investment in IT, given that expenses may be funded by your department, the CERP, etc.?

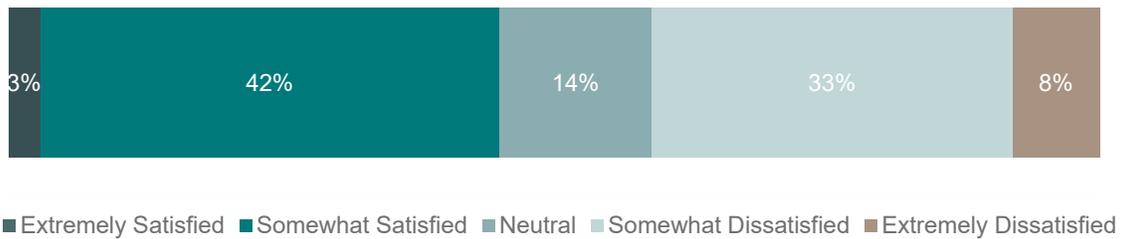




8. How would you rate the charges for the CERP Fund?



9. What is your overall level of satisfaction with the effectiveness of communication from the ISD?





APPENDIX C: GUIDING QUESTIONS FOR LEASING VS. PURCHASING

In the Government Services Administration's Lease vs Purchase Guideline for Information Technology (IT) Hardware guide, they recommend asking the following key questions to assess organizational needs and current environment for leasing:

Business Value

These questions examine the need for new equipment for end users, and the agency's ability to manage a leasing contract.

1. Does your agency have a formal replacement plan? If so, leasing is feasible. If replacement is done on an as-needed basis, the controls may be lacking to manage a lease.
2. Does your agency currently lease any type of equipment? If so, this can provide useful expertise at identifying the benefits, and drawbacks of leasing in your agency.
3. Does your agency have a business need to replace PCs (or other equipment) more often than what is currently done? If so, what is the largest obstacle to more frequent replacement?

Equipment Life Cycle

Identifying current agency practices helps to determine if leasing would or would not be useful to the agency. Long-term use of equipment indicates that the costs of leasing would most likely outweigh its benefits.

1. What is the average age of PCs (or other equipment) before they are replaced in your agency?
2. How long are servers used?
3. Is data center software upgraded on a regular basis?

Asset Management

The ability to know where all of the IT equipment is at a given point in time is crucial to lease management. Tracking only at aggregate levels does not allow the agency to meet leasing terms when the time comes to identify and return the leased equipment. Additional costs for lost/stolen equipment can add significantly to the cost of a leasing engagement or purchasing. Asset management is critical regardless of whether the equipment is purchased or leased.

1. Does your agency have IT tracking mechanisms in place?
2. Does your agency have a problem with lost or stolen IT equipment? If so, is this a small, medium, or large problem?

Contract Management

Effective leasing depends on the ability of the agency to set up the lease properly at the beginning, and then to manage the entire life cycle of the leasing contract. Uncertain funding makes leasing much less feasible.

1. Does your agency have the time to select a vendor?



2. Does your agency have the time to develop a good leasing contract?
3. Does your agency have the time and staff to manage the contract throughout the life cycle of the equipment?
4. What is the stability of the primary source of funding for your IT equipment?



APPENDIX D: SAMPLE PERFORMANCE METRICS

- ISD non-capital expenditures per FTE served
- ISD total expenditures per endpoint served
- Help desk requests resolved within 4, 8, and 24 hours
- Help desk requests resolved on first contact
- Mean time to resolve requests
- Customer satisfaction rating
- Percent of planned projects delivered
- Percent of equipment replacements delivered on schedule
- Online application performance and/or availability
- System uptime

