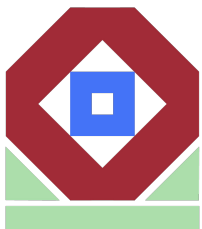


Technology Purchasing: Citywide strategy and guidance needed to address problems

October 2024

Simone Rede, City Auditor
KC Jones, Audit Services Director
Tenzin Gonta, Deputy Director
Minh Dan Vuong, Principal Performance Auditor
Jessica Lange, Performance Auditor



**Portland
City Auditor**
Audit Services



Contents

- Summary 1
- Background 2
- Audit Results 5
 - Technology Services did not lead strategically 5
 - Citywide strategy is needed for technology purchasing 6
 - City has fragmented and duplicate technology platforms that could be improved with a strategy 8
 - Delays were common for technology purchases and could have been mitigated with a strategy 9
 - Recommendation 11
 - Extent of buying technology from historically disadvantaged businesses was unknown 11
 - Guidance is needed to contract with historically disadvantaged businesses 12
 - Recommendation 13
 - Guidance is needed to support language access 13
 - Recommendation 14
 - Guidance is also needed to ensure access for people with disabilities..... 14
 - Recommendation 16
 - Other matter 16
 - Recommendation 16
- Technology Services agreed with our recommendations 17
- How we did our work 17

Summary

Millions of dollars in technology supports interactions between Portlanders and their government. To deliver services, City staff in all bureaus depend on technology, ranging from laptops to special equipment, from off-the-shelf software to custom databases. Members of the community also use City systems to request, access, and pay for services, such as repairs of City infrastructure or transportation benefits.

Buying technology strategically means ensuring that bureaus' and users' needs are incorporated into the process, which could result in more timely and responsive City services for Portlanders.

But we found problems in how the City buys technology:

- The Bureau of Technology Services did not lead City technology purchases strategically; instead, technology purchases were largely left to each frontline bureau. This has resulted in fragmented technology purchases and delays on many purchases. A strategy is needed to address coordination problems among bureaus, better support bureaus, and address delays.
- The City did not track how much technology it bought from historically disadvantaged businesses. Guidance is needed to support bureaus' progress toward the City's existing goal.
- Bureaus were inconsistent in ensuring language accessibility of their technology purchases, even though that is a requirement. Technical guidance is needed to help bureau staff make their technologies accessible to people who may not speak English.
- Many City technology systems are inaccessible to people with disabilities. Technical guidance is needed to ensure bureaus comply with the Americans with Disabilities Act.

One reason why the City did not buy technology strategically was the City's form of government, which changes January 1, 2025.

We recommend a Citywide strategy for technology purchasing. This will require stronger centralized leadership. To be accountable to existing equity commitments and laws, we also recommend central support bureaus develop technical guidance for all bureaus' technology purchases.

Background

Community members and City staff rely on technology in nearly every service that the City provides. When a community member pays their tax bill or needs a City water pipe repaired, technology comes into play. City staff use technology to coordinate with each other, look up information, create work orders, and communicate with community members. In fiscal year 2023-24, the City spent at least \$63 million on technology that included equipment, software, and related services.

Most technology purchases started as an idea or need at the frontlines of providing City services. When these frontline bureaus wanted to buy technology, they were required by City rules to work with and get approvals from the City's centralized support functions: Technology Services and Procurement. At the time of our audit, both of these entities were within the City's Office of Management and Finance.

Our audit was completed while the City was transitioning from the old commission form of government to a new mayor-council form of government. In the old form of government, the Mayor and Commissioners acted as legislators and as bureau executives. Executive leadership of about 20 bureaus frequently shuffled among Commissioners so that a bureau buying technology was often led by a different Commissioner than the one leading Technology Services. In the new form of government, the Mayor and City Administrator will have sole executive authority to manage bureaus, and they are separate from the legislative City Council. The City is also reorganizing some of its bureau structure as part of the transition.

The mission of Technology Services is to deliver strategic leadership through effective, innovative, reliable, and secure technology services. Technology Services is authorized to set Citywide policies and standards and aspires to provide a Citywide strategy.

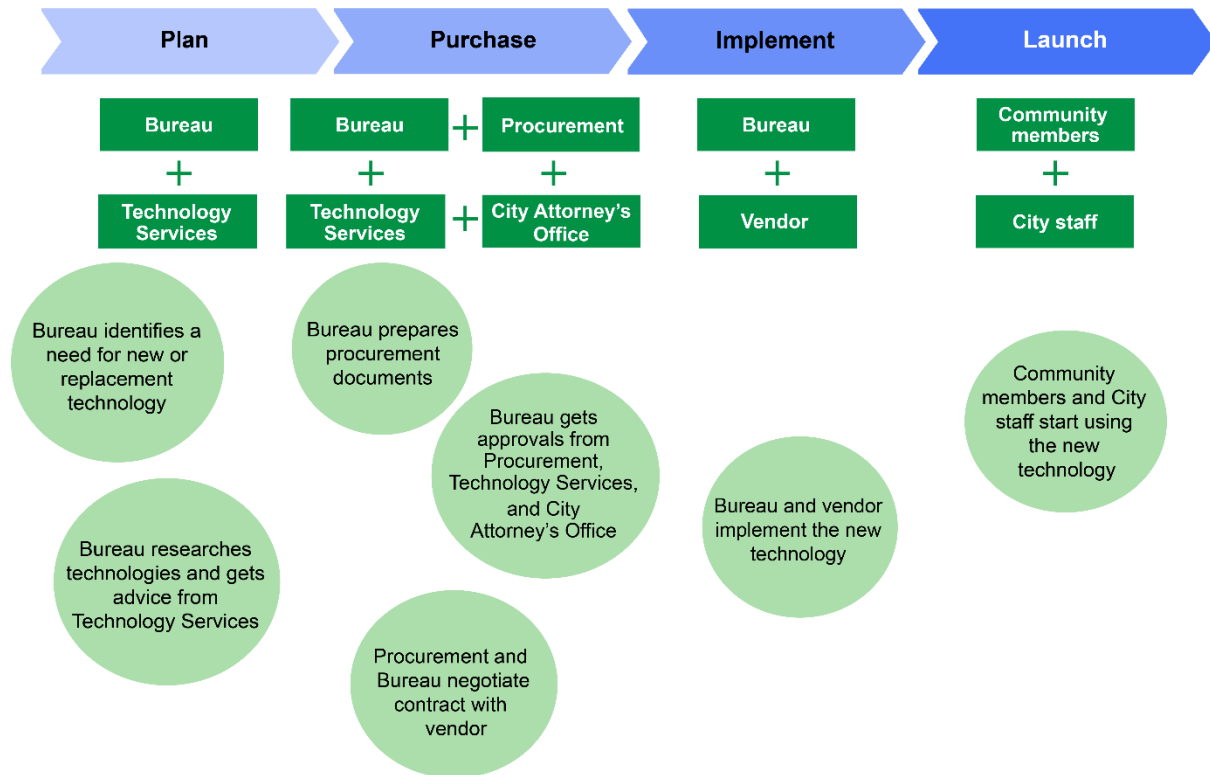
A Citywide strategy would mean the entire organization has proactively identified goals, service levels, and needs, and has outlined the steps and resources that are needed to reach them. Such a strategy helps parts of an organization act together, proactively. These qualities describe a mature organization. At the highest level, a mature organization will plan ahead and integrate technology throughout its operations.

By contrast, a less mature organization reacts to its environment. For example, it waits for a request from another workgroup before reviewing and approving it. As an organization becomes more mature, it becomes more responsive to stakeholders. This could mean it starts to advise other workgroups and tracks the quality of its work.

At the City of Portland, there are multiple phases and multiple bureaus involved in buying technology before it can be launched. The purchase phase, for example, has

several approval steps from Technology Services, Procurement, and the City Attorney's Office to ensure City contracting and technology rules are followed.

Figure 1. The City's technology purchasing process is complex



Source: Audit Services' analysis of the City's technology purchasing process.

In addition to the purchasing process, technology purchases must also follow several equity commitments:

- The City has a goal for giving a portion of contracts to historically disadvantaged businesses
- City policy and the Civil Rights Act require language accessibility
- City policy and the Americans with Disabilities Act require accessibility for people with disabilities

For this audit, we compared the City's technology purchasing against technology management best practices and equity commitments. To assess how effectively Technology Services was leading a Citywide strategy, supporting bureau needs, and meeting equity goals, we conducted seven case studies of technology purchases. They represented a variety of large and small purchases across several different bureaus. Among the seven case studies, the tax collection system and the transportation wallet app directly connect community members with City services. In contrast, the others

were primarily for internal use by City staff. We identified the purpose, approximate cost, and outcome of each purchase.

Tax collection

- About 900,000 taxpayers file and pay taxes through this system; the Bureau of Revenue and Financial Services collects \$1.4 billion in taxes annually
- \$62 million over 10 years
- Consolidated system launched in 2020 and is currently in use



Transportation wallet app

- Some residents can get City-provided transit and transportation benefits. The Transportation Bureau intended to streamline how it provides these benefits.
- \$300,000 spent of \$1 million contract
- City ended the contract before vendor provided a completed product



Water and sewer asset management

- The Water and Environmental Services bureaus maintain water and sewer systems, track repairs. This system will replace an existing outdated system.
- \$14 million, or more, over 10 years
- System is currently being built



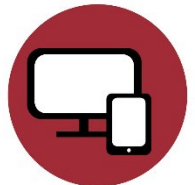
Technology support for employees

- City staff request technology help and services from Technology Services
- \$300,000 per year; \$600,000 to build
- System was launched 2023 and is currently in use



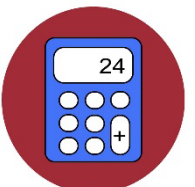
Device management

- Technology Services manages computers and cell phones owned by the City
- \$700,000 per year
- System was launched 2023 and is currently in use



Specialized accounting software

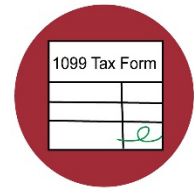
- Bureau of Revenue and Financial Services accounts for how the City uses software subscriptions
- \$1,500 per year



- Purchase was not completed; an alternative solution was used

Tax form software

- Bureau of Revenue and Financial Services issues tax forms to vendors
- Initial estimate was \$400,000; one alternative cost \$1,000 per year
- Purchase was not completed; two alternative solutions were used



Audit Results

Technology Services did not lead strategically

Technology Services served largely in a reactive role on many City technology purchases, falling short of its mission and aspiration to lead a Citywide strategy. There was no Citywide strategy in place for technology purchasing. Planning and pursuing technology purchases to completion was largely left up to each frontline bureau.

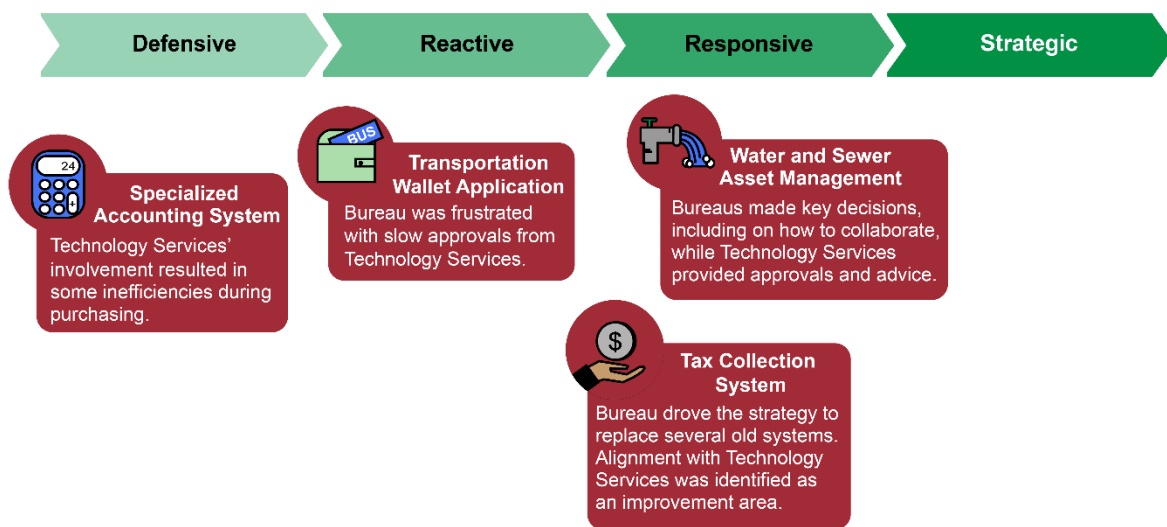
In this audit's case studies and beyond, we found problems with coordination between bureaus that show the absence of strategic leadership:

- **Responsibility for technology purchases rested mostly with bureaus:** The City budgeted, planned, and prioritized most technology purchases at the individual bureau level, often resulting in little involvement or visibility with Technology Services. Bureaus made key decisions, such as about timing, scope of work, and how technologies would be used. Several City staff members suggested Technology Services put a lot of responsibilities and burdens on bureaus when it came to planning and buying new technology. Bureaus often faced constrained budgets.
- **Support from Technology Services for bureaus was more defensive and reactive:** Usually Technology Services reviewed technology purchases with an emphasis on compliance with City technology rules. These reviews were reactive to bureaus' requests. But bureau staff were asking for more responsiveness and help from Technology Services and Procurement. They said there was often confusion about the process of buying technology. Several City staff members suggested more how-to guidance and more communication from Technology Services would be helpful. Even though bureau staff praised individual employees in Technology Services and Procurement, we still found a pattern of bureau staff asking for more and better central support.

- Agility and innovation also hinged on individual bureaus' initiative:** During our audit we saw that, when a bureau approached Technology Services with a purchase request, Technology Services staff reviewed information security, network, compatibility issues, and contracting issues specific to that purchase, but this was largely reactive to that specific purchase. Being defensive or reactive falls on the lower end of a technology organization's maturity, whereas more mature organizations are responsive or focus on strategy, according to our analysis of best practice guidance.

Among the technology purchases we reviewed, it was mostly frontline bureaus rather than Technology Services that took the lead in identifying opportunities for taking a Citywide approach and coordinating with other bureaus. On two large and complex technology projects – the water and sewer asset management system and the tax collection system – Technology Services was responsive to bureau staff.

Figure 2. Case studies show Technology Services was defensive, reactive, or responsive with technology purchasing, rather than strategic



Source: Audit Services' analysis of the City's technology purchasing process and selected case studies.

Furthermore, two projects were planned and managed by Technology Services, with benefits and impacts across all City bureaus.

Citywide strategy is needed for technology purchasing

Having a Citywide strategy is not just the mission and aspiration of Technology Services, but also a technology management best practice supported by the COBIT

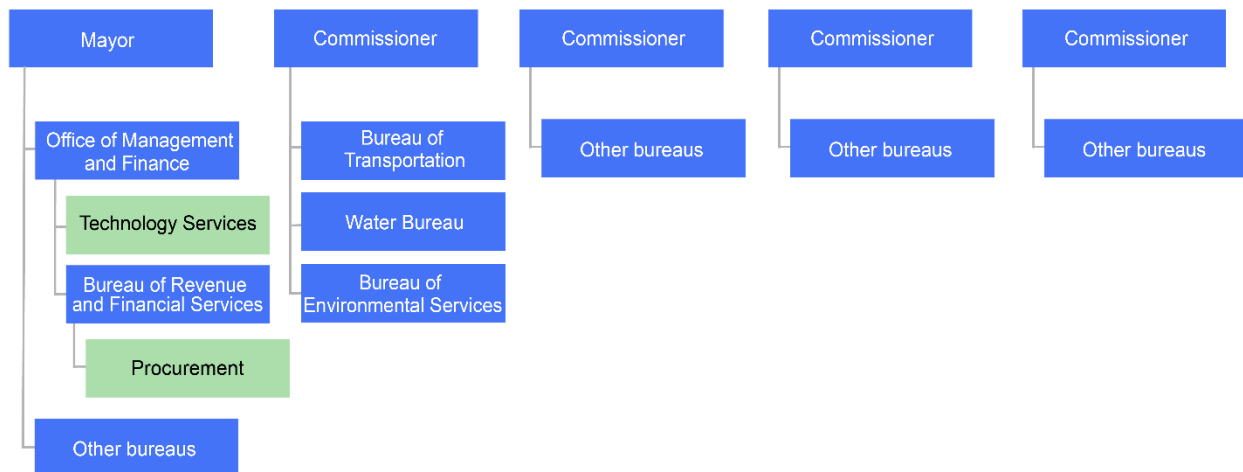
framework. The COBIT framework describes at a high level what an organization needs to do to be strategic: evaluate strategic options, monitor achievement of the strategy, and align and plan for the overall organization. This framework contains more specific details on what elements and measurements an organization can put into place to take these steps.

A Citywide strategy would mean the entire organization has proactively identified goals, service levels, and needs, and then outlined the steps and resources that are needed to reach them.

A strategy clarifies the roles for frontline bureaus and for the supporting and central role of Technology Services and Procurement. By setting expectations for each of these entities' roles and how they will work together, the current occasional bureau collaborations can rise to an organization-wide, planned effort. This can benefit bureaus and staff that do not often buy technology, and potentially address gaps in resources or processes.

One reason that Technology Services had not developed such a Citywide strategy was the commission form of government, which is changing. In the old form of government, there were organizational silos and bureaus buying technology often had a different chief executive than Technology Services, and leadership changes were common.

Figure 3. Citywide strategy for technology purchases was missing from Portland's commission form of government

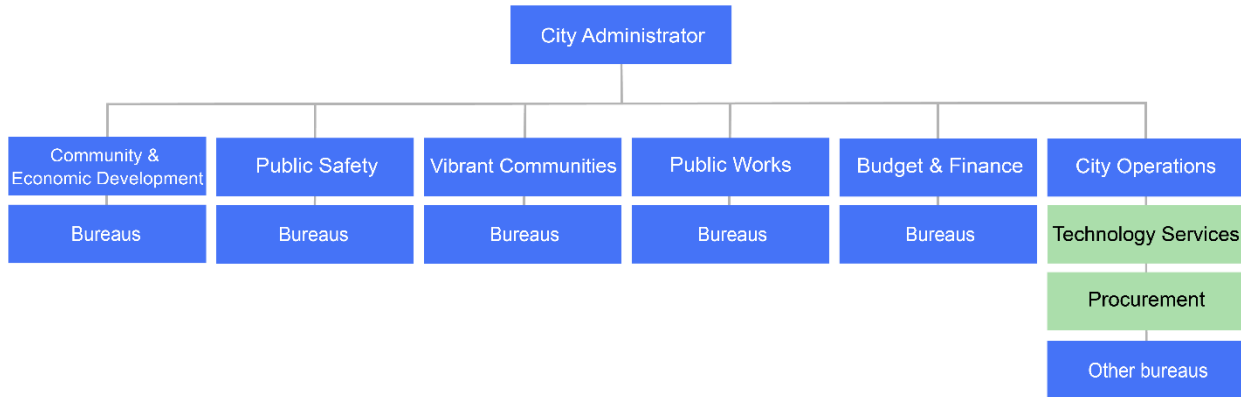


Source: Audit Services' analysis of City organization chart.

In the new form of government, the City Administrator has an increased role in coordinating policies and services across all bureaus. While Technology Services has the subject matter expertise on technology, both the City Administrator and Technology

Services should have key roles in setting and coordinating the new strategy for technology purchasing.

Figure 4. The City Administrator will coordinate bureaus in the new form of government, effective January 2025



Source: Audit Services’ analysis of City organization chart.

City has fragmented and duplicate technology platforms that could be improved with a strategy

During our background research for this audit, we learned that the City bought multiple technology products that essentially served the same purpose, leaving opportunities for better coordination, integration, and economies of scale. The City uses databases, asset management systems, request tracking systems, communication tools, and file management applications based on all kinds of different platforms. Sometimes, different bureaus bought the same technology separately. This siloed approach was common in the commission form of government.

In one case study, we heard concerns from City staff about a technology system’s potential for duplicative products and duplicative spending. In this example, Technology Services bought a software bundle, estimated \$300,000 per year. Some functions to manage City devices went unused. The bureau explained afterwards that these functions did not fit the City’s needs, but it wanted other products in the bundle. The City later bought different software for about \$700,000 per year from another vendor to manage City devices. There were ongoing disagreements among Technology Services staff about the strategic purpose of the system purchased. An upfront strategy potentially could have avoided issues and disagreements among bureau staff.

In our case studies, we also saw some steps toward more coordinated City technology: The Bureau of Revenue and Financial Services consolidated several old tax collection

systems into a new, integrated one. In another example, the Water and Environmental Services bureaus took the initiative to collaborate when buying a new asset management system for their water and sewer pipes. But these decisions were largely driven by the frontline bureaus, rather than by a technology purchasing strategy for the City as a whole.

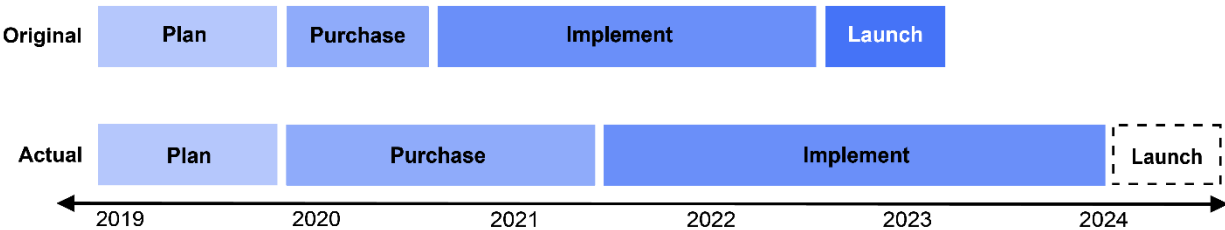
A strategy can address fragmented and duplicative purchasing by synchronizing bureaus' common technology needs. When bureaus move to more shared technology platforms, the City can save time and money in the long run. Using common technology platforms across bureaus will also make it easier for staff to collaborate or switch roles. These efficiency gains can ultimately improve public services, but need a Citywide strategy to guide all bureaus in the same direction.

Delays were common for technology purchases and could have been mitigated with a strategy

Not having a Citywide strategy contributed to lengthy delays on technology purchases. Those delays meant that the public and City staff were not getting intended service improvements. In our case studies we saw delays ranging from one month to 32 months. The longest delays we saw impacted the transportation wallet app and the system for managing water and sewer assets.

The transportation wallet app was delayed several times, and ultimately the City ended the contract before the app was built to completion, so Portlanders did not get the new app that would have their transportation benefits all in one place. Vendor negotiations, planning work, and bureau coordination problems caused delays of 16 months in the purchasing phase. Transportation staff said that Technology Services was unresponsive at times. The launch target was moved back multiple times, too, totaling another 16 months.

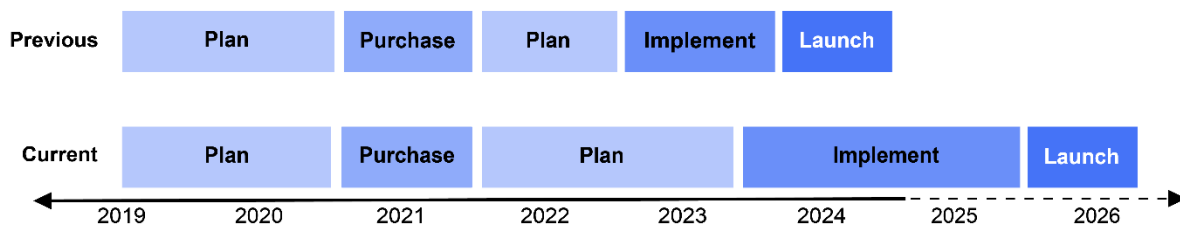
Figure 5. Transportation wallet app exceeded original timeline and had yet to launch



Source: Audit Services' analysis of app documents.

The system for managing water and sewer assets was delayed in the purchasing phase by five months for pandemic-related reasons, then more vendor negotiations took another 11 months. One bureau’s staff noted that they had to wait for another bureau’s staff and approvals to move forward – a delay that could have been avoided with better coordination. As implementation finally began in 2023, bureaus worked through additional planning and preparation issues that resulted in postponing the launch date by another 10 months. The system is intended to replace an outdated one that should have been replaced in 2021.

Figure 6. The timeline of the water and sewer asset management system experienced several delays



Source: Audit Services’ analysis of system documents and interviews with bureau staff.

There were many causes of delays, some outside of and some within the City’s control. Each of these reasons could be justified as normal or necessary in isolation, but taken together they affected the City’s service delivery to community members and show a pattern of missed timelines. For example:

- **Vendor negotiations:** Technology vendors did not agree with City negotiating positions and did not respond in a timely manner during contract negotiations for the transportation wallet app and the water and sewer asset management system, City staff said.
- **Poor coordination:** Some bureau staff found it difficult to get timely responses from Technology Services and Procurement during their purchases. When one bureau needed another bureau’s approval or expertise, this dependency often created unproductive wait time. This happened with the transportation wallet app and the tax form software.
- **Project changes:** Sometimes, the City changed or expanded a technology project in the middle of buying or building, which necessitated more time for planning, vendor negotiations, and rework. This happened on the transportation wallet app, for example.
- **Outside events:** Issues related to the Covid pandemic, such as shifting priorities within the City and vendor supply chain problems, also caused widespread delays, according to City staff.

The root cause of all these delays, however, is that the City has not coordinated technology goals and relationships among its bureaus to meet critical timelines. When there are process bottlenecks or coordination needs within a complex organization, a strategy can help affected bureaus weigh competing needs and prioritize, clarify, and manage timelines for technology purchases. A strategy can also articulate the needs for additional resources.

Recommendations

To ensure the City approaches technology purchases with a coordinated strategy across all bureaus, to address coordination problems among bureaus, to synchronize common technology needs, and to mitigate delays, the City Administrator should:

1. Direct a Citywide strategy for technology purchases. Technology Services should provide subject-matter expertise in developing the strategy.
2. Describe in the Citywide strategy how Technology Services will more proactively support and guide bureaus' technology purchases.
3. Implement actions to coordinate bureaus, synchronize technology needs, and mitigate delays on technology purchases, within the strategy or otherwise.

Extent of buying technology from historically disadvantaged businesses was unknown

During our review of the City's technology purchasing, we found the City did not know how much technology it bought from historically disadvantaged businesses. Procurement did not keep track of this data, even though it oversees the Citywide contracting program with historically disadvantaged businesses. Technology Services, in turn, said it relied on Procurement for Citywide tracking.

Since at least 2012, the City has set goals for contracting with historically disadvantaged businesses. Currently, the City's aspirational goal is giving 20 percent of some contracts' value to businesses that have been historically disadvantaged. This effort is also called "social equity contracting." These businesses are registered by the State of Oregon in the following categories: disadvantaged, minority-owned, women-owned, owned by a service-disabled veteran, or emerging small business. This City goal, similar to other public agencies, aims to address historic inequities in governmental contracting, and grow business opportunities for these historically disadvantaged businesses.

Technology spending at dozens of millions of dollars per year makes up a substantial portion of City spending. Some technology purchasing, such as consulting, falls under

an existing City goal that aspires to give 20 percent of such contracts to historically disadvantaged businesses. For other kinds of technology purchases, such as hardware and software, City Council has taken steps for more inclusive contracting, but there is no specific goal currently.

As reason why this data had not been tracked for technology purchases, Procurement said that the goal and contracting program were less formal than the City's well-established contracting program for construction and that the City Council had not asked for such reports in the past. Procurement also noted the importance of future City leaders prioritizing this contracting program.

This is a gap in accountability: when no one tracks data on relevant goals, the City cannot show the business community and other stakeholders its progress. The City wanted to address historic inequities in governmental contracting and grow business opportunities for historically disadvantaged businesses. If the City underperforms with technology purchases, it may need to do more in other areas such as hiring consultants to meet Citywide goals. Without tracking, if the City was falling behind on a goal, it also would not know to take corrective action.

Guidance is needed to contract with historically disadvantaged businesses

Absent performance data, we heard the City was struggling to buy technology from historically disadvantaged businesses, which indicates the City was not providing as much contracting opportunities to historically disadvantaged businesses as it wants to.

Except for some consultant services related to one case study, none of the technology purchases we reviewed for this audit were from such businesses. This was not surprising because many technology products are only available from a few large corporate vendors. Procurement staff said technology sellers were not as diverse. Similarly, an industry group representing Oregon technology firms told us they wanted more support from the City for smaller, innovative technology firms that wanted to become part of the pipeline of vendors from which the City could purchase.

Citywide guidance to bureaus for buying technology from historically disadvantaged businesses did not exist. Procurement had not created such guidance despite its responsibilities for the Citywide contracting program. Technology Services had not documented or widely shared its knowledge of the vendor landscape, and as a result bureaus did not always know the technology vendor landscape, according to City staff.

Direction is also needed because goals for technology purchases can sometimes compete with each other – for example, the City's desire to move towards common

technology platforms versus buying from historically disadvantaged firms. When City staff intentionally build more inclusive practices into their planning and purchasing of technology, they may need extra time. Without such direction on how to apply, balance, or prioritize these goals, bureaus potentially make decisions without the bigger picture and without advancing Citywide goals.

Recommendations

To ensure accountability to the City's aspirational goal of contracting with historically disadvantaged businesses and support bureaus' progress toward this goal:

4. Procurement should track contracting with historically disadvantaged businesses in technology purchases.
5. Technology Services and Procurement should give bureaus guidance on how to meet the goal for contracting with historically disadvantaged businesses for technology purchases.

Guidance is needed to support language access

Frontline bureaus were leaders on incorporating language access into their technology purchases. However, in the absence of centralized technical guidance, we found they had inconsistent approaches.

One out of five Portlanders speaks a language other than English at home, according to the American Community Survey. The City's language access policy, created in 2020, says the City wants to ensure all community members, including people who have limited English proficiency, have meaningful access to City services and information. City Council directed bureaus to implement resources, tools, and guidance to be created by the Office of Equity and Human Rights. Additionally, the federal Civil Rights Act of 1964 requires some City services to be meaningfully accessible to people with limited English proficiency.

Both public-facing technology purchases we reviewed for this audit considered language access. For example, the Bureau of Revenue and Financial Services decided to offer the tax collection system in English and Spanish. In another example, the Bureau of Transportation planned to translate some key documents for the transportation wallet app into five languages other than English. In each case, bureau staff relied on their own expertise rather than central guidance in making these choices. This decentralized approach and reliance on individual project managers means some other City technologies may fall short of the Citywide language access policy.

Beyond the purchases we reviewed in this audit, there were many more public-facing City systems that were only readily offered in English. Organizational silos were cited by City staff as one reason for technology systems not meeting language access requirements.

An inconsistent approach for including language access could result in inequitable outcomes and communities receiving inequitable services from the City. After setting up different language options, all bureaus still need to evaluate whether multilingual community members are taking advantage of the services and whether City goals for language access are met. While the Bureau of Revenue and Financial Services reviewed data of languages spoken in Portland, it was unclear if multilingual tax filers were taking advantage of electronic tax filing and payment options, or if they had further unmet language needs.

The City's language access policy from 2020 outlined only high-level commitments and did not provide technology-specific guidance or tangible steps that bureaus could follow to ensure language access. The Office of Equity and Human Rights has subject-matter expertise for language access issues within the City and is charged with creating tools and guidance for all bureaus.

Recommendation

To consistently incorporate language access into technology purchases and ensure bureau accountability with applicable laws, such as the Civil Rights Act, and City policies:

6. Technology Services and the Office of Equity and Human Rights should give bureaus technical guidance for language access for technology purchases.

Guidance is also needed to ensure access for people with disabilities

Bureaus were also responsible for making their technologies accessible to people of all abilities and compliant with the Americans with Disabilities Act. In our case studies, we saw one attempt by a bureau to integrate access for people with disabilities and, beyond our case studies, a patchwork of City technologies with varying accessibility.

About one out of four adult Portlanders has a disability, according to data from the Centers for Disease Control. The Americans with Disabilities Act has since 1990 prohibited discrimination in City services based on disability. City policy requires all City activities and services to provide for equitable outcomes and opportunities consistent with the federal law. For technology to be accessible, websites, applications, and

software have to be designed to meet needs of people who have vision or mobility impairments or use assistive technologies. Alternatively, the City has to offer reasonable modifications to its usual way of providing services.

The Bureau of Revenue and Financial Services intentionally put user testing and disability access requirements into the contract for building the tax collection system. Bureau staff said they were largely relying on their own initiative and wanted better support and guidance from central support bureaus. But another technology system we reviewed as part of this audit was reported to be inaccessible by a City employee in another bureau, after it had launched. The employee could not use that system because Technology Services had not turned on some function to help users of assistive technologies. Only after the employee raised the issue did Technology Services turn on that system's screen reader capability and asked Office Equity and Human Rights staff for an accessibility review. That system is intended to serve thousands of City employees.

Beyond the purchases reviewed for this audit, City employees have complained about other public-facing City technology systems being inaccessible to people with disabilities, such as the system to register for recreation classes, the sign-up for emergency notifications, the enterprise financial system, maps and data visualizations, and likely many more that we are not yet aware of. This issue has caused frustration in the disability community, according to a City employee who is a subject-matter expert.

So far, the City's accessibility policy consists of a short, high-level statement reiterating the Americans with Disabilities Act, with little application guidance. The Office of Equity and Human Rights and Technology Services have been drafting a digital access policy, but it is not yet final. Without central guidance on how to achieve access for people with disabilities, the City will continue to have a patchwork of technology systems with varying levels of disability access.

Community members also highlighted accessibility problems with City technology systems in a 2023 survey by the Office of Equity and Human Rights. For example, one respondent said, "Many parts of the City website are inaccessible to screen reading technology. Many lack description of graphical and other images. Maps are totally inaccessible. These problems have caused me to limit which activities I can be involved in, such as advisory committees."

To support access for people with disabilities, the City needs to give bureau staff guidance about incorporating their needs when planning for and buying technology. This would help make City technologies proactively accessible from their first day in use, instead of letting people with disabilities find problems that need to be addressed afterwards. Technical guidance is needed to break down legal requirements and the City's high-level goals into more specific and practical steps for technology purchasing,

such as standard vendor requirements and user testing practices. The City's compliance with the Americans with Disabilities Act is not a new issue: In 2021, we [called attention](#) to the issue of City bureaus not having sufficient expertise in the Americans with Disabilities Act.

The Office of Equity and Human Rights has subject-matter expertise in access for people with disabilities, but limited capacity to get involved in all technology purchases. Some City staff said accessibility problems stem from no one ensuring the bureaus follow existing law. In the new form of government, the City Administrator can more directly hold bureaus accountable to applicable laws and City policies.

Recommendation

To consistently incorporate accessibility for people with disabilities into technology purchases and ensure bureau accountability with applicable laws, such as the Americans with Disabilities Act, and City policies:

7. Technology Services and the Office of Equity and Human Rights should give bureaus technical guidance for accessibility for people with disabilities for technology purchases.

Other matter

During this audit we found a purchasing practice that warrants corrective action by management because it is inconsistent with City Code. Technology Services made monthly purchases of hardware and software from one vendor. Rather than setting up a formal contract, Technology Services repeatedly used purchase orders, which are less formal and require fewer approvals.

City Code requires City Council approval for all contracts over \$1 million because the City requires higher levels of approval and transparency for larger dollar purchases. We found the combined amount of these purchases was about \$6 million in Fiscal Year 2022-23. Because of this aggregate dollar amount, a formal City contract publicly approved by City Council would have been more appropriate. City Council approval, which was not needed or given for the purchase orders, would have enhanced transparency for the public and for City leaders. Further, the use of an approved contract would also have been more strategic and economical because a contract would have given City staff the opportunity to negotiate more volume discounts.

Recommendation

To purchase technology more transparently and meet City Code requirements:

8. Technology Services should enter into a contract with the vendor where it has used repeated purchase orders in the past.

Technology Services agreed with our recommendations

We provided this report to the Mayor, City Administrator, Deputy City Administrator for City Operations, Chief Technology Officer, Chief Procurement Officer, and Director of Equity and Human Rights. The Chief Technology Officer responded on behalf of the City and agreed with our audit recommendations.

How we did our work

This audit's purpose was to evaluate the effectiveness of the City's technology purchasing. We assessed how effectively Technology Services was leading a Citywide strategy, supporting bureau needs, and meeting equity goals in technology purchases.

Our methods and data sources included:

- Reviewing City budgets, City Council decisions on recent technology purchases, and applicable laws, rules, and City plans.
- Interviewing City staff from Technology Services, Procurement, City Attorney's Office, Housing Bureau, Bureau of Emergency Management, Office of Equity and Human Rights, Water Bureau, Bureau of Environmental Services, Bureau of Revenue and Financial Services, Bureau of Transportation, Bureau of Planning and Sustainability, Bureau of Parks and Recreation, the Mayor's Office, and stakeholders from the Technology Association of Oregon.
- Surveying bureau staff who we identified as having a role in buying technology about the City's technology purchasing process.
- Using the COBIT 2019 Framework as a source of technology management best practice. COBIT is an information and technology governance framework issued by ISACA, an industry group of information technology professionals.
- Adapting a model from R.S. Gold, "Enabling the Strategy-focused IT Organization," Volume 4, 2002, Information Systems Control Journal as a source of technology management best practice and organizational maturity.
- Selecting seven case studies for this audit that highlighted risks in City technology purchases, had broad public impacts, or were examples of bureau collaboration.

- Reviewing, as applicable for each case study, the planning and procurement documents, the contracting method, contracts, timelines, and inclusion of language and disability access. Conclusions drawn from the case studies may not be generalizable to all City technology purchases. We concluded, however, that the process improvement, bureau coordination, and management issues we identified are generalizable.
- Requesting information about contractor and subcontractor participation of historically disadvantaged businesses in technology purchases. Our conclusions about the City's tracking of relevant data are included in this report.
- Obtaining statistics for language spoken at home for Portland from the U.S. Census Bureau's 2018-2022 American Community Survey 5-Year Estimates.
- Obtaining an estimate for prevalence of disability among adults aged 18 years and older for Portland for 2021 from PLACES health data by the Centers for Disease Control and Prevention (CDC), the Robert Wood Johnson Foundation, and the CDC Foundation.
- Reviewing results from the Office of Equity and Human Rights' 2023 Disability Equity and Engagement Survey.

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.



City Operations Service Area

Jeffrey Baer, Chief Technology Officer

@PortlandGov

PortlandORGov

portlandgov

DATE: October 25, 2024

TO: City Auditor Simone Rede

FROM: Jeff Baer, Chief Technology Officer *JB*

SUBJECT: Response to Technology Purchasing Audit

This letter provides a written response to recommendations from the audit “Technology purchasing: Citywide strategy and guidance needed to address problems.” The Bureau of Technology Services (BTS) generally agrees with the Audit recommendations as noted below, though we may differ in opinion on approach and/or staffing.

Within the audit, the City Administrator is named as the actor within most recommendations. In the future, it would be helpful for the Auditor’s office to add “or designee” and/or collaborate with the City Administrator and Deputy City Administrators to determine who the most suitable actor would be within each recommendation. As we move into a new government structure, it will be increasingly important to provide clear guidance on what should rest with the City Administrator, Deputy Administrator, Bureau Director, and/or program manager.

Below is our detailed response to each audit recommendation.

RECOMMENDATION 1	
<p>To ensure the City approaches technology purchases with a coordinated strategy across all bureaus, to address coordination problems among bureaus, to synchronize common technology needs, and to mitigate delays, the City Administrator should:</p> <p>1. Direct a Citywide strategy for technology purchases. Technology Services should provide subject-matter expertise in developing the strategy.</p>	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2025

Narrative for Recommendation 1

The Bureau of Technology Services' (BTS) Mission Statement is "to provide innovative, reliable and secure technology services and strategic leadership in alignment with the needs of the City of Portland, the public and our regional partners." However, BTS' role in guiding technology purchasing across bureaus has largely been constrained due to the siloed nature of the soon-to-expire government structure. In the first Quarter of 2024, BTS engaged Gartner, a consultant assisting in evolving BTS' organization and governance structures. The scope of work included an assessment of our existing technology landscape, policies, and service maturity. BTS' intent is to leverage the new City organizational structure as well as the new BTS internal structure to drive efficiencies and improvements. BTS looks forward to coordinating with Procurement Services and City Leadership to develop a citywide strategy for technology purchases.

RECOMMENDATION 2	
To ensure the City approaches technology purchases with a coordinated strategy across all bureaus, to address coordination problems among bureaus, to synchronize common technology needs, and to mitigate delays, the City Administrator should: 2. Describe in the Citywide strategy how Technology Services will more proactively support and guide bureaus' technology purchases.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2025

Narrative for Recommendation 2

As stated in response to Recommendation 1, one of BTS' goals in implementing the Gartner IT Assessment recommendations is to drive efficiencies and make gains on the support side through those efficiencies. They have recommended a three-year strategic and operational roadmap to implement better organizational, technological, and policy alignment. Some of the focus areas include establishing an enterprise governance structure and enabling data-informed decision-making. Additionally, BTS will continue to mature operations to focus beyond reactive processes and more on service and value provision, while providing strategic leadership in alignment with the needs of the City.

RECOMMENDATION 3	
To ensure the City approaches technology purchases with a coordinated strategy across all bureaus, to address coordination problems among bureaus, to synchronize common technology needs, and to mitigate delays, the City Administrator should: 3. Implement actions to coordinate bureaus, synchronize technology needs, and mitigate delays on technology purchases, within the strategy or otherwise.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2025

Narrative for Recommendation 3

Historically, BTS has had little to no input on when requirements from individual Bureaus would arrive and, as such, could not enforce standards or decide to combine procurements, except for Citywide contracts that are owned and operated by BTS (e.g. Microsoft License Purchasing, Adobe License Purchasing, etc.). With the advent of the City Administrator and Deputy City Administrator positions and the implementation of a service area organizational structure, we expect there will be more opportunities for efficiencies of scale. BTS will work with the Technology Executive Steering Committee, City Leadership, and Procurement Services to establish City priorities with an emphasis on enterprise focused technology solutions.

RECOMMENDATION 4	
To ensure accountability to the City’s aspirational goal of contracting with historically disadvantaged businesses and support bureaus’ progress toward this goal:	
4. Procurement should track contracting with historically disadvantaged businesses in technology purchases.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2026

Narrative for Recommendation 4

The City’s policy identifies an aspirational goal to give 20% of contracts to historically disadvantaged businesses. This applies to subcontracting opportunities in construction, and professional, technical, and expert services contracts. There is no City policy that establishes an aspirational goal for goods and services, though Procurement’s corporate responsibility language included within Requests for Proposals (RFPs) asks that businesses consider subcontracting to historically disadvantaged businesses. When scoring proposals, Procurement takes that level of subcontracting into account as a preferable aspect of a proposal, though not a formal goal or requirement.

Where technology procurements fall within these service categories, participation is tracked by Procurement Services. However, as the audit highlights, there is no formal equity in contracting program specific to technology procurements. The audit further highlights that many technology products are only available from a few large corporate vendors and technology suppliers are not as diverse as we might see with other contracting needs. We believe the constrained vendor climate and lack of technology-specific equity in contracting program may indicate that a 20% aspirational goal is not an appropriate metric.

As such, BTS and Procurement Services will work to identify an aspirational goal that is reasonable for technology procurements by pursuing budget authority to conduct a market analysis to determine the availability of historically disadvantaged businesses that provide information technology goods and services. Once a reasonable aspirational goal is determined, BTS and Procurement Services will work with City Leadership to establish an equity contracting policy for technology procurements and secure the resources required to implement the policy.

Implementing new equity contracting programming will require additional resources in FTEs and systems upgrades to track participation current BTS and Procurement Services resources do not have the capacity to absorb.

RECOMMENDATION 5	
To ensure accountability to the City’s aspirational goal of contracting with historically disadvantaged businesses and support bureaus’ progress toward this goal:	
5. Technology Services and Procurement should give bureaus guidance on how to meet the goal for contracting with historically disadvantaged businesses for technology purchases.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2026

Narrative for Recommendation 5

Once a reasonable technology procurement goal is established, BTS will coordinate with Procurement Services to identify opportunities and create guidance for bureaus on how to recruit and improve greater participation of historically disadvantaged firms on all technology procurements, providing them with tools such as a Business Outreach Toolkit, and Small and Medium Enterprise Toolkit to conduct focused outreach.

We will also work with City Leadership and the Technology Executive Steering Committee to develop a policy to better address ongoing tensions in purchasing i.e. obtaining and implementing large technology standards to facilitate service delivery to the community and pursuing historically disadvantaged firms that tend to offer more limited service and support.

RECOMMENDATION 6	
To consistently incorporate language access into technology purchases and ensure bureau accountability with applicable laws, such as the Civil Rights Act, and City policies:	
6. Technology Services and the Office of Equity and Human Rights should give bureaus technical guidance for language access for technology purchases.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2025

Narrative for Recommendation 6

BTS will partner with the Office of Equity and Human Rights to create technical guidance, the City Attorney’s office on legal compliance issues, and the City Budget Office to strategize regarding additional funding that will be needed to meet this requirement ongoing.

RECOMMENDATION 7	
To consistently incorporate accessibility for people with disabilities into technology purchases and ensure bureau accountability with applicable laws, such as the Americans with Disabilities Act, and City policies:	
7. Technology Services and the Office of Equity and Human Rights should give bureaus technical guidance for accessibility for people with disabilities for technology purchases.	
Agree or Disagree with Recommendation	Target date to complete implementation activities
Agree	December 2025*

Narrative for Recommendation 7

Historically, BTS has not provided overarching guidance for accessible technology purchases, and we will continue to work with OEHR to provide more in-depth guidance for people with disabilities for technology purchases. However, we do provide and continue to improve upon specific guidance regarding digital content including:

- [Captioning video and audio content](#)
- [Accessibility best practices](#) for:
 - Documents
 - Tables
 - Links
 - Semantic HTML

We are undertaking a citywide accessibility program to align with the Americans with Disabilities Act (ADA) Title II regulations for web content and mobile applications. This program includes creating and disseminating guidance, standards, requirements, and terms and conditions for accessible technology purchases for publicly accessible products. This is a joint effort between BTS, Procurement Services, Office of the City Attorney, and OEHR. *There is a federal mandate to have this specific work completed by April 2026.

RECOMMENDATION 8	
To purchase technology more transparently and meet City Code requirements:	
8. Technology Services should enter into a contract with the vendor where it has used repeated purchase orders in the past.	
Agree or Disagree with Recommendation	Target date to complete implementation activities

Agree	March 2025
-------	------------

Narrative for Recommendation 8

Historically, the City has issued Purchase Orders (POs) using cooperative procurement authority. Up until April 30, 2020, when a Memorandum of Understanding (MOU) was established between Procurement Services and BTS, every PO for all technology was issued by Central Procurement, who then reviewed and approved procurement authority, validity of purchase, and other requirements.

In the past, cooperative POs have been interpreted as a standalone contract for its purchase since it incorporates the terms and conditions of the cooperative agreement as well as the City's standard PO terms and conditions.

That said, BTS is in the process of negotiating a Participating Agreement with Dell and will set up an outline agreement for future purchases. We expect this to be in place by March 2025.

Please contact Jeff Baer at jeff.baer@portlandoregon.gov or 503-823-5540 with any questions.

COPY: Michael Jordan, City Administrator
Sara Morrissey, Deputy City Administrator of City Operations
Sylvester Donelson Jr., Chief Procurement Officer
Kathleen Brenes-Morua, Design and Construction Procurement Manager
Jeff Selby, Interim Director of the Officer of Equity and Human Rights
Judith Mowry, Interim Deputy Director of the Officer of Equity and Human Rights
Tenzin Gonta, Deputy Director of Audit Services
Minh Dan Vuong, Principal Performance Auditor
Jessica Lange, Performance Auditor