

Memorandum



CITY OF DALLAS

DATE April 21, 2023

TO Honorable Mayor and Members of the City Council

SUBJECT **Technology Accountability Report – March 2023**

Please find attached the Technology Accountability Report (TAR) based on information through March 31, 2023. The TAR is a progress report reflecting the performance and operational status of the city in purchasing, implementing, operating, and securing technology to achieve the city's priorities and service objectives.

If you have any questions, please contact William (Bill) Zielinski, Chief Information Officer and Director of Information & Technology Services.

A handwritten signature in blue ink that reads "Jack Ireland".

Jack Ireland
Chief Financial Officer

c: T.C. Broadnax, City Manager
Tammy Palomino, Interim City Attorney
Mark Swann, City Auditor
Biliera Johnson, City Secretary
Preston Robinson, Administrative Judge
Kimberly Bizer Tolbert, Deputy City Manager
Jon Fortune, Deputy City Manager

Majed A. Al-Ghafry, Assistant City Manager
M. Elizabeth (Liz) Cedillo-Pereira, Assistant City Manager
Dr. Robert Perez, Assistant City Manager
Carl Simpson, Assistant City Manager
Genesis D. Gavino, Chief of Staff to the City Manager
Directors and Assistant Directors

Technology Accountability Report (TAR)



City of Dallas

As of March 31, 2023

Prepared by Information & Technology Services

**1500 Marilla Street, 4DS
Dallas, TX 75201**

214-671-9868

Executive Summary

The highlights of the March 2023 Technology Accountability Report (TAR) include:

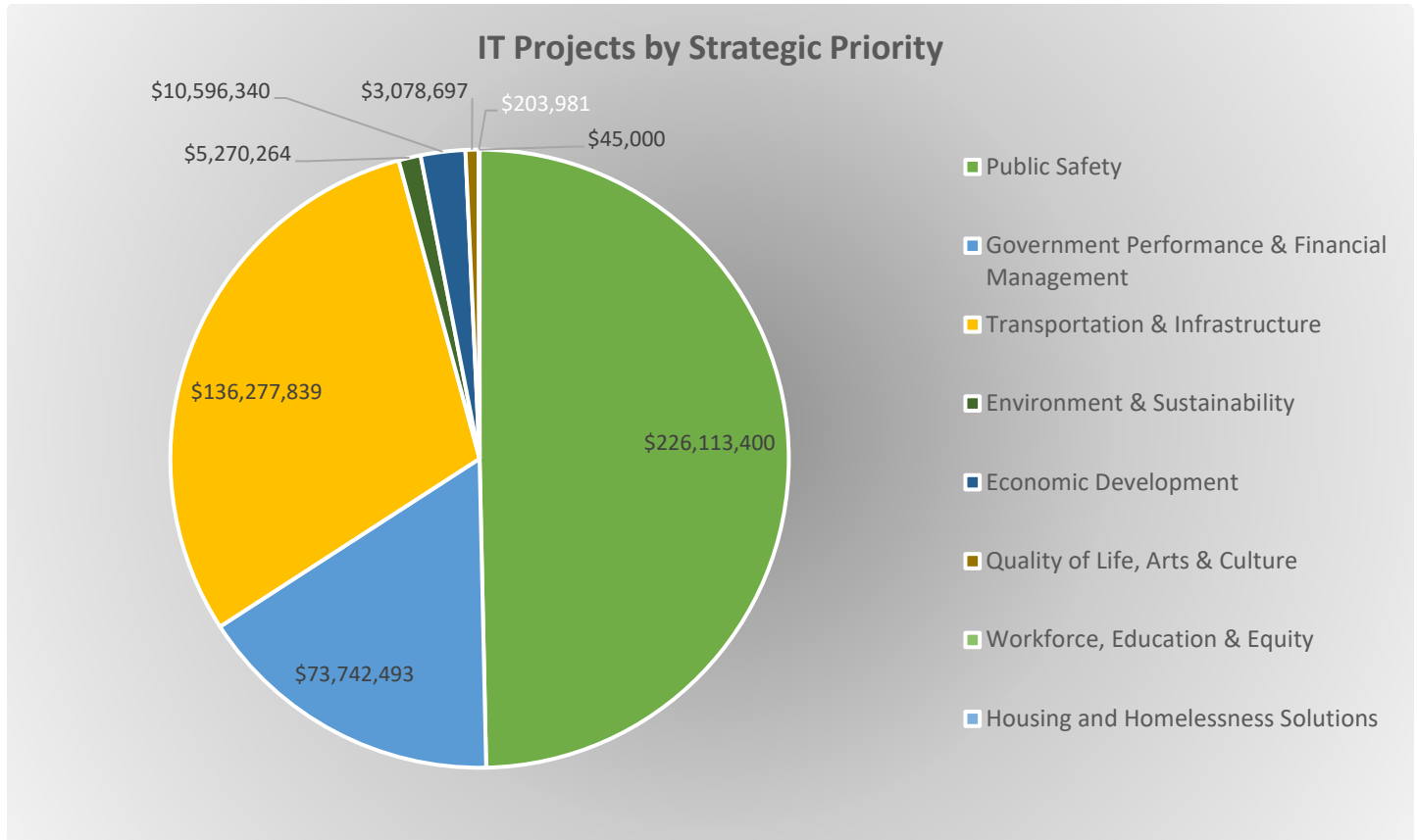
- Section 1: IT Programs & Projects – An additional data point has been added to the list of major projects providing information regarding projects which involve financial transaction processing and require compliance with Payment Card Industry (PCI) standards.
- Section 1: IT Programs & Projects – During March 2023, three major projects were completed and removed from the report:
 - The **Automated Nuisance Abatement Work Order Salesforce System** project provided functionality for Code Compliance for work order tracking and completion and to generate invoices for lien processing.
 - The **HUD Income Limits Eligibility Survey** project provided an online tool for Housing to reduce uncertainty or confusion among City of Dallas residents when determining eligibility for various programs based upon the Housing and Urban Development (HUD) income limits.
 - The **Advanced Traffic Management System (ATMS)** project was one phase of a multi-phased program for Transportation which migrated the current ATMS system from old, analog technologies to a new digital infrastructure.
- Section 1: IT Programs & Projects – During March 2023, five projects were approved through the Information Technology Governance process and added to the project pipeline. With these additional approved projects, along with projects completed, the project pipeline decreases to 119 active IT projects with a total estimated cost of \$455 million. As these new projects are launched, project delivery and timelines will be further defined, and they will be added to the major project list and tracked in future TAR reports as appropriate.
- Section 5: IT Infrastructure – The section on Technical Debt has been expanded to provide additional information about the framework for identifying, assessing, and remediating the risks associated with technical debt in the City’s IT application and infrastructure environment.

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Section 1: IT Programs & Projects

A. Project Pipeline

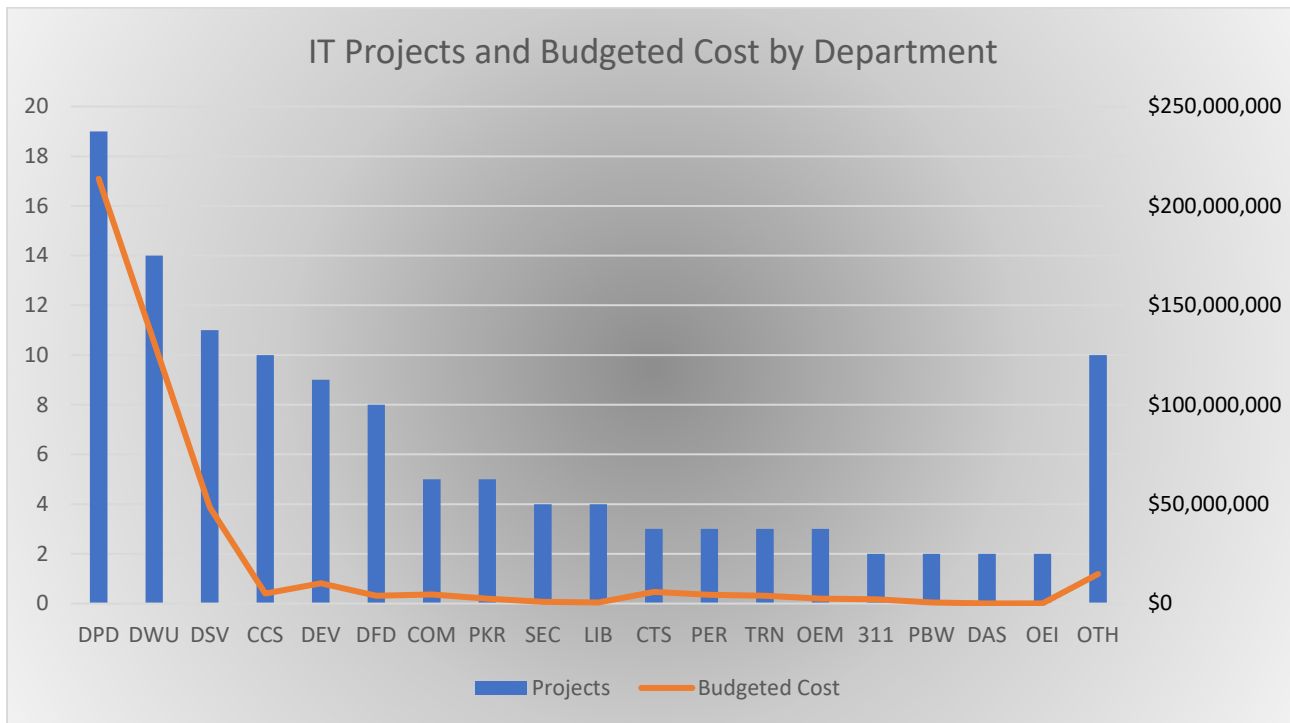
1. IT Projects by Strategic Priority



NOTES:

1. As of 03/31/2023, ITS has 119 approved IT projects in the pipeline.
2. The total budgeted costs for the 119 projects are \$455,328,014.
3. Project pipeline includes at least one project aligned to every one of the identified 8 strategic priorities.
4. The highest number of active IT projects are aligned to the Public Safety Strategic Priority with a total of 33 projects at a total budgeted cost of \$226.1M, followed by Government Performance & Financial Management with a total of 29 projects at a total budgeted cost of \$73.7M, Transportation & Infrastructure with a total of 20 projects at a total budgeted cost of \$136M, and Environment & Sustainability with 13 projects at a total budgeted cost of \$5M.

2. IT Projects and Budgeted Cost by City Department



NOTES:

1. 28 City Departments are represented across the 119 approved IT projects in the pipeline.
2. Dallas Police Department has 19 active projects at a total budgeted cost of \$213.6 million, followed by Dallas Water Utilities with 14 active projects at a total budgeted cost of \$131.1 million, Information & Technology Services with 11 projects at a total budgeted cost of \$48.3M, Code Compliance with 10 projects at a total budgeted cost of \$5.1M, and Development Services with 9 active projects at a total budgeted cost of \$10.2M.
3. 10 Departments have 1 active project each, making up the Other (OTH) group in figure 2 above.




B. Major Project Status

****LEGEND:**






- **Cancelled:** The project has not finished, and work on the project will not continue.
- **Completed:** Work on the project has finished, and all deliverables/tasks have been completed.
- **Delayed:** The project is still active, but we have passed the initial estimated completion date.
- **In Process:** The project is currently being worked on by the project team.
- **On Hold:** The project has not finished, and work on the project has been suspended.
- **Ongoing:** The project consists of multiple phases or is an operational project. Some portions have been completed, but the project has not fully reached fruition.

-  : Addresses technical debt


-  : Payment Card Industry (PCI) involved project

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
1.	Enterprise Contact Center (ECC) Solution	The Enterprise Contact Center application within the City of Dallas is a secure, reliable, and scalable call platform to meet the high call volumes and growth to meet the needs of city residents. The ECC includes Natural Language Processing (NLP), Knowledge Base, Workforce Management, Interactive Voice Response (IVR), Courtesy Call Back, and other core call center capabilities to support multiple departments across the city. (\$2,134,245)	GPFM	311	TBD	In Process	
2.	Ethics Point Salesforce Integration	The purpose of this system is to promote and support ethical financial compliance. (\$63,164)	GPFM	ATT	Dec-23	In Process	
3.	Core Financial System Upgrade	The CG Advantage 3 system is utilized by all departments within the City for processing and recording of all budget, procurement and financial accounting transactions and interfaces with many enterprise business applications. This major upgrade will move the City's core financial system to a cloud-based solution providing advanced capabilities and incorporating modern technologies such as robotic process automation (RPA) and machine learning (ML) to improve the quality and speed of financial transactions. (\$11,823,168)	GPFM	CCO	Jul-24	In Process	
4.	Code Case Management System Phase 2 (Boarding Homes)	CCMS Phase 2 provides Code Compliance Services (CCS) with an application to support all operational, mobility, integration with 311 CRM/SAN/CTS, and other supporting departments, in managing service requests from city residents. (\$344,858)	Environment & Sustain	CCS	Oct-20	Delayed	



As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
5.	Asset Management System	The Code Compliance office is seeking an asset management system to manage a number of different of assets to include Ballistic vests, uniform items (pants, belts, reflective vests, shirts, jackets) that they issue officers, and other equipment deployed to their staff to perform their duties. This effort gathers requirements to conduct market research and identify potential solutions to meet the business need. (\$76,000)	Environment & Sustain	CCS	TBD	Delayed	
6.	Envision Connect Replacement Project	This project will replace the current Restaurant Inspection System - Envision Connect. Envision Connect is at the end of life for support. The vendor is requesting to move to their newer application for restaurant inspections. (\$482,611)	Environment & Sustain	CCS	TBD	In Process	
7.	Consumer Protection online Salesforce Application/ permitting system	This system will allow department to implement online permit process for seven applications (wood vendor, motor vehicle repairs, Credit access, electronic repairs, home repair, scrap tire). Will allow business owners to access, complete, submit, and track their business permit applications online. (\$318,050)	Environment & Sustain	CCS	Jul-23	In Process	
8.	Remote Video Streaming	COM is currently exploring acquiring equipment that would allow live video and audio to be streamed from offsite locations to our control room. This is a frequently requested service by various departments and Council offices and aligns with COM's mission. (\$192,166)	GPFM	COM	TBD	In Process	
9.	Closed Captioning System for City Council Meetings	Closed Captioning on the live webstream/cable channel of City Council meetings will help meet ADA compliance and our Equity and Inclusion goals. (\$504,612)	GPFM	COM	Jun-23	In Process	
10.	RFCSM for Court Case Management System	The current Court Case Management System (Tyler Technologies) contract will expire June 2024. CTS wishes to conduct market research and conduct a competitive procurement to ensure the best solution is selected to upgrade and improve court case management. (\$4,371,720)	Public Safety	CTS	TBD	In Process	
11.	Court Case Management System: On Prem Upgrades	CCSM upgrades that was going to be done with the Cloud hosted solution is still required. (\$259,016)	Public Safety	CTS	Dec-23	In Process	
12.	DAS Inventory Management Tool	Dallas Animal Services manages a large inventory of drugs, supplies and business equipment needed to perform their functions. Currently inventory management is done through a legacy system database (animal software) or on spreadsheets, but are inadequate to provide appropriate controls and functionality. (\$14,062)	Environment & Sustain	DAS	TBD	Delayed	
13.	iNovah Upgrade	This project upgrades existing software to most recent version and provides new hardware for iNovah, the Point of Sale/cashiering system for Sustainable Development. (\$484,350)	ECO	DEV	TBD	In Process	


As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
14.	Expand OnBase to the entire SDC Department	The OnBase content management system was originally implemented only for the Building Inspection division within the Development Services Department (DEV). Purpose of this project is to implement the content management system to all divisions within DEV. (\$180,712)	ECO	DEV	TBD	On Hold	
15.	Development Services Training Simulator	The building permitting and inspection process involves a number of different components operating independently on separate software platforms. The purpose of this project is to develop a training simulator that allows for cross-collaboration across city divisions to improve quality and efficiency of processes. (\$50,000)	ECO	DEV	TBD	On Hold	
16.	Customer Queuing software	Customers currently walking into the permit center need to be able to "sign in" and set appointments remotely. DEV needs to be able to offer this service to their customers to better track the data associated with their customers' experiences; volume, wait times, types of service...etc. This project will identify, procure, and implement a customer queue management solution for Development Services. (\$60,000)	ECO	DEV	Jul-23	In Process	
17.	Land Management System_POSSE replacement project	The city's current permitting system has reached end of life, cannot interact with the new geospatial technology standards, and is difficult to change to support new business requirements, and workflows. This project will deploy a new system to replace the existing system and to add efficiencies in the permitting process. (\$9,746,780)	ECO	DEV	Sep-25	In Process	
18.	Telestaff	Implementation of a web-based hosting, Software as a Service (SaaS) solution Workforce TeleStaff System for automation of scheduling and staffing for City of Dallas Public Safety 24-hour employees. (\$731,238)	Public Safety	DFD	Sep-22	Delayed	
19.	Smart Device/Technology Behavioral Health App for DFR members	This project will provide a Peer Support Contact App for Dallas Fire-Rescue (DFR) personnel. At Dallas Fire-Rescue (DFR), the City is promoting whole-person wellness. This new application will supplement existing mental health support services available to the City's DFR members. (\$170,000)	Public Safety	DFD	TBD	On Hold	
20.	Unmanned Aerial Systems (Drones)	Unmanned Aerial Systems (UAS) may be used during crucial emergency response occurrences., giving real-time video to improve situational awareness, officer safety, and thermal assessment. They are useful in a variety of special operations, including Haz-Mat, search and rescue, water rescue, and wildland fires, allowing Incident Command and Executive Staff to perform airborne surveys of an incident. (\$111,400)	Public Safety	DFD	Sep-23	In Process	



As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
21.	Station Alerting System	Dallas Fire Rescue dispatches resources from 58 fire stations strategically deployed throughout the City. To avoid response delays, DFR relies on a station Alerting System that integrates with our Computer Aided Dispatch (CAD) system to advise firefighter/paramedics of assistance calls. The current station alerting system is end of life, difficult to maintain, and lacks the full range of functionality more modern solutions provide. This project will conduct market research into, procure, and implement a new, modern station alerting system for Dallas Fire Rescue. (\$1,860,000)	Public Safety	DFD	Sep-23	In Process	
22.	IT Infrastructures For New Fire Stations 19, 21, 36, 41, 46, 58 & 59	Total of 8 new and rebuild Dallas Fire Stations are being constructed in scope Sta. 46, 36, 59, 41 Temp, 41 Replacement, 19, 58 and 21 FS/AVI Center. All new IT infrastructures including cabling, network, workstations, printers, radio Alerting system equipment, etc., will be activated in line with facility openings. (\$131,688)	Public Safety	DFD	Oct-23	In Process	
23.	Mobile Surveillance Platform Vehicles (Formerly known as Bait Car)	The Dallas Police Department (“DPD”) currently operates a fleet of 25 Mobile Surveillance Platform vehicles. These vehicles are deployed throughout the City and serve as “bait cars”. These vehicles are outfitted with covert cameras, microphones, GPS, and other capabilities. (\$700,000)	Public Safety	DPD	TBD	On Hold	
24.	County CAD Collaboration	Upgrade and expand the city’s Computer-Aided Dispatch (CAD), extending it to the County to improve collaborate on emergency 911 call center responses. This project is also required to fully implement the upgrade of the 911 call center’s telecommunications infrastructure. (\$0)	Public Safety	DPD	Jan-23	In Process	
25.	DPD - Auto Pound	This project provides a public portal to allow for citizens to pay fines and fees online to the auto pound in order to recover their vehicle. The information from the payment system allows for better management of the DPD Auto Pound. (\$311,006)	Public Safety	DPD	Feb-23	Delayed	
26.	WEB-RMS	This project will migrate DPD’s current law enforcement Records Management System (RMS) case management system from the current onsite solution to an upgraded Web-based system. The upgraded RMS will give the department needed functionality that is not available to the department currently in the on-premise solution. Current limitations require process workarounds creating potential errors and inefficiencies which will be resolved with the upgrade. (\$1,010,000)	Public Safety	DPD	TBD	In Process	
27.	Real Time Crime Center (RTCC) Video Integration (Previously Starlight)	To provide an analytics-driven video monitoring platform, capable of alerting the Dallas Police Department’s Real Time Crime Center (RTCC) of criminal behavioral indicators and activity occurring at local businesses. (\$747,052)	Public Safety	DPD	Feb-23	In Process	
28.	Ricoh-Fortis Document Management System Replacement	The DPD Fortis document management system is at end of life and no longer supported. This project will replace and upgrade the DPD document management system. (\$217,633)	Public Safety	DPD	TBD	In Process	



As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
29.	COBWEBS	This project will implement social media investigative software for the Police Department (DPD). This software will provide an efficient tool for investigating social media post from potential suspects to aid in investigations. (\$93,353)	Public Safety	DPD	Apr-23	In Process	
30.	Axon Air (Drones)	UAS capture vital information that officers can use to resolve very dangerous situations in the best possible way. The information can be sent, in real-time, to officers in the field. Also, the data gathered from UAS can be key in an investigation for locating suspects who are wanted for a crime. For example, murder suspect barricades himself in a residence, the UAS will be able to be sent in to let the officers in the field know if there are innocent citizens in danger or if the officers have time to deescalate and talk the suspect out. UAS technologies are used by departments and agencies across the nation. Agencies that use UAS technology have seen great benefits from the information gathered in real time situations. Combining this technology with Axon Air will provide the real time intelligence and evidentiary needs to create the holistic solution. (\$20,160)	Public Safety	DPD	Apr-23	In Process	
31.	P25 Compliant Radio Project	The city's current public safety radio network is 40 years old and not compliant with new standards (P25) for these networks. This project installs all-new infrastructure for a fully P25 compliant radio communications system that will be used by multiple departments within the City and County of Dallas. This system is intended and designed to host external governmental agencies throughout the region. (\$54,898,873)	Public Safety	DPD	Jun-23	In Process	
32.	Non-City Business Live Surveillance (Fusus)	The Fūsus product suite will provide a video and data collaboration platform to expedite intelligence gathering and efficiency of response to situations as they unfold throughout the community. Further, providing a tool for identifying the location of cameras in proximity that may provide valuable information to aid in the response and/or subsequent investigation. (\$478,589)	Public Safety	DPD	Sep-23	In Process	
33.	Early Warning System	This project provides the Dallas Police Department a data-driven, decision-making support application that helps Police leadership systematically identify officers who are showing signs that they are at risk to citizens or of executing law enforcement objectively. The platform utilizes data from a multitude of sources to assess and score risk and provide information to DPD leadership for potential interventions. (\$302,495)	Public Safety	DPD	Oct-23	Ongoing	
34.	In Car Video - Body Worn Camera - Interview Room	There is a Federal Requirement to video record public safety stops. In car systems involve video in patrol cars. Body Worn Cameras involve wearable video cameras systems for officers. Interview Rooms involves replacement of video equipment in Public Safety interview rooms. (\$134,756,801)	Public Safety	DPD	Dec-24	In Process	

As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
35.	Surveillance Cameras and Real Time Crime Center	This project will provide a "Real Time Crime Center" capability within Jack Evans police station. It will include 1) building a new command center video room (Real Time Crime Center), 2) building camera installations, 3) video camera software, video storage and surveillance camera installations at intersections, and 4) Trailer camera installations. (\$16,261,454)	Public Safety	DPD	Dec-24	In Process	
36.	Use of Force - Police Strategies LLC	This project will provide a data analytics platform which produces analytic dashboards which provides comparative analyses by extracting data from incident reports & officer narratives, analyzes the data using established algorithms, and produces written summary reports used by DPD leadership in focusing resources. (\$1,383,800)	Public Safety	DPD	Jul-26	Ongoing	
37.	Unsupported Software Remediation	Identify Servers running unsupported Software, DBs running unsupported versions of software, and Applications that will require modifications to bring up to supported software levels. Develop a plan to upgrade, in a sequenced fashion. (\$0)	GPFM	ITS	Dec-20	Ongoing	
38.	Apptio IT Financial Transparency SaaS	This project is for a cloud-based solution for the Department of Information and Technology Services (ITS) to gain detailed insight into information technology (IT) expenses, cloud infrastructure / software usage and other IT related costs. (\$1,353,866)	GPFM	ITS	Mar-23	In Process	
39.	Visualization Engineering Services	Purchase of Visualization Engineering services will provide an authoritative visualization of our Current State and Future States - an effort critical to information data center improvements. The outputs of this engagement will be crucial to the success of planned improvements to Application Portfolio Management in addition to the stated necessity in regard to data center improvements. (\$685,972)	GPFM	ITS	Apr-23	In Process	
40.	ServiceNow Phase 2	ServiceNow Phase 2 comprises 4 major tasks or subprojects - "IT Software and Hardware Asset Management", "ServiceNow Stabilization and Workflow Improvement", "ServiceNow Fedramp Cloud Migration", and "ServiceNow Version Upgrade to San Diego Q1 2022". (\$1,305,890)	GPFM	ITS	Jun-23	In Process	
41.	Relocate Development Services to New Facility	In September 2022, the City of Dallas purchased a new facility at 7800 N. Stemmons Freeway which will serve as the offices and storefront for the Development Services Department (DEV). This project will provide all new IT infrastructure including cabling, network, workstations, printers, radio equipment, etc. in line with the facility opening. (\$5,000,000)	GPFM	ITS	Nov-23	In Process	
42.	Network Unified Communications Upgrade	The City's current collaboration suite is at end of life and requires an update to maintain functionality and reduce risk. This project will upgrade the Unified Communications Management (UCM) to the latest version available. (\$618,180)	GPFM	ITS	Dec-23	In Process	

As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
43.	Data Center Improvement Program	This program provides a comprehensive review, assessment, and cleanup of the City Hall Data Center and all other locations which hold primary and ancillary equipment used for IT operations in the City. (\$10,700,000)	GPFM	ITS	Apr-24	Ongoing	
44.	IT Project and Portfolio Management Tool	This project will implement a new Project and Portfolio Platform (PPM) tool suite to provide a centralized and automated project management portfolio, assist with project intake, and improve the tracking and management of IT projects. (\$300,134)	GPFM	ITS	Aug-24	In Process	
45.	Digital Equity Infrastructure	This project seeks to meet the City's vision of ensuring that all Dallas households will have high-speed, reliable internet and access to devices in their homes by seeking commercial telecommunication service providers to develop and implement digital equity infrastructure which addresses established gaps in targeted communities. (\$40,000,000)	GPFM	ITS	Dec-32	In Process	
46.	Enterprise Capital Project Management System (ECPMS) Phase 2	Phase 2 Implementation of the Enterprise Capital Project Management System (ECPMS), IBM Tririga, to support the DWU Capital Projects division. Also, includes the delivery of reporting enhancements and efficiencies to the Phase 1 implementation. (\$2,169,090)	Transport & Infra	DWU	Dec-22	In Process	
47.	Enterprise Work Order and Asset Management (EWAMS) Phase 2	Implementation of an Enterprise Work Order and Asset Management System (EWAMS), that can be utilized as the standard for the City of Dallas. The Phase 2 effort of this Enterprise platform implementation will manage Work Orders and Maintenance. (\$4,901,864)	Transport & Infra	DWU	Sep-23	In Process	
48.	LIMS Acquisition and Implementation Phase 3	DWU is implementing a Laboratory Information Management System (LIMS) for one Analytical Lab, five treatment plants, the Water Quality Division and the Watershed-Reservoir Division to increase regulatory compliance, productivity, efficiency and effectiveness. (TBD)	Transport & Infra	DWU	May-24	In Process	
49.	Enterprise Work Order and Asset Management (EWAMS) Phase 3	This professional service contract allows for continuous consultant services for the expansion of the Enterprise Work Order and Asset Management System (EWAMS). Phase 3 will oversee the implementation of Dallas Water Utilities (DWU) Meter Services division. (\$12,989,751)	Transport & Infra	DWU	May-28	In Process	
50.	Infrastructure Upgrade of Dallas LIB system (formerly called E-Rate)	This project will refresh existing, and add new components, to LIB Network Infrastructure. The upgraded infrastructure will dramatically improve the delivery of digital services to LIB patrons. (TBD)	QOL	LIB	Sep-23	In Process	
51.	Library Website update	The library's website needs to be updated to meet the current and future needs of the library including being able to support additional online content and online programs and education. (TBD)	QOL	LIB	Dec-24	In Process	
52.	Neighborly Expansion - Fair Housing	The purpose of the software is to complete the Fair Housing assessment of housing projects. This ensures we affirmatively further fair housing in the City as required by the Fair Housing Act and HUD. (\$25,700)	Workforce, Education & Equity	OEI	Mar-23	Delayed	

As of 3/31/23

#	Project Name	Description	Strategic Priority	Dept.	Estimated Completion Date	Project Status	Value Adds
53.	Stormwater Compliance Information Management System	OEQ staff currently manage mission-critical and legally sensitive environmental management consent decree (EMCD) /permit-required tasks through a 20-year-old "homemade" information system built on MS Access 2002 and InfoPath. This project will procure and implement a new, modern system which provides timely information through dashboards and reports. (\$49,900)	Environment & Sustain	OEQ	Mar-23	In Process	
54.	Implement Workday Prism	The Workday Prism Project will aggregate historical data from the City's prior payroll system and make it available with new payroll data in Workday. (\$68,995)	GPFM	PER	May-22	Delayed	
55.	PKR-IT Infrastructures for New Parks and Recreation Sites Phase 2	This project includes the acquisition and installation of IT infrastructure and services for new PKR facilities. New IT Infrastructures include local and metro network, internet, PCs, printers, security systems, point of sale systems, telephones, etc. (\$670,000)	QOL	PKR	Apr-23	Ongoing	
56.	IT Infrastructure for Bachman Aquatic Center	Park and Recreation is building a new Bachman Aquatic Center which provides new Digital Service to Residents or Businesses. (\$118,000)	QOL	PKR	Jun-23	In Process	
57.	PKR Recreational Management System	Dallas Park and Recreation Department is looking for a recreation management system to manage recreation activities and programs of its 43 recreation centers, 107 pavilions, 19 aquatic facilities and over 200 athletic fields. (\$0)	QOL	PKR	Dec-24	In Process	
58.	Payment Vendor (SAP Users - DWU)	This project is to migrate DWU and other user departments of online (Biller Direct) and IVR payments to a new payment platform which provides real-time information for payments and reconciliation. (\$15,000,000)	Transport & Infra	SAP	Dec-23	In Process	
59.	DWU Billing CIS and Customer Portal Replacement	DWU's current CIS system, SAP, will reach it's end of life in 2025. DWU must replace SAP by 2025 in order to ensure continuity of our billing. (\$0)	Transport & Infra	SAP	Jul-25	In Process	
60.	Electronic Document Management - EDMS	Project Provides Electronic Document Management and Document Archive System for City Secretary's Office. (\$336,562)	GPFM	SEC	Dec-20	On Hold	
61.	Boards and Commissions Management Solution	The business objective for this project is to assist and upgrade the City Council's Boards and Commission appointment process in 3 key areas: New Boards and Commission Application Portal, Upgraded Boards and Commission Tracking/Reporting Solution. (\$12,675)	GPFM	SEC	Apr-22	In Process	
62.	SEC Records Inventory Management Solution	Replace the current obsolete unsupported FoxPro database with a state-of-the-art software application (preferably SaaS) that provides full functionality for operating a records center. Replacing this application will improve the management of the 70,000+ (\$231,440)	GPFM	SEC	Nov-22	In Process	
63.	Build an Ethics Financial Reporting Solution	The purpose of this system is to promote and support ethical financial compliance. (\$15,000)	GPFM	SEC	Feb-23	On Hold	

NOTES

- 1. Enterprise Contact Center (ECC) Solution.** The new Enterprise Contact Center (ECC) is in production and currently in use by City departments for fielding inquiries from residents. The project is still considered open and in process as there are several items to be delivered for completion. Anticipate approximately 3 – 6 months' work to implement Single Sign On (multi-factor authentication), for final delivery of the Lab (test portion) of the project, and for re-evaluation of Salesforce integration.
- 3. Core Financial System Upgrade.** The contract requirements and project timeline have been finalized and the contract action is targeting a May Council agenda.
- 4. Code Case Management System Phase 2 (Boarding Homes).** Application processing is delivered. Awaiting Payment Card Industry (PCI) compliance to deploy remaining modules.
- 5. Asset Management System.** Multiple departments have requested an asset/inventory management tool. ITS is consolidating requirements across departments to perform market research to determine whether an option for a city-wide solution can be provided.
- 8. Remote Video Streaming.** Project plan/schedule is under development. New date will be provided when available.
- 12. DAS Inventory Management Tool.** Multiple departments have requested an asset/inventory management tool. ITS is consolidating requirements across departments to perform market research to determine whether an option for a city-wide solution can be provided.
- 13. iNovah Upgrade.** Project is currently in planning stage. Project date will be updated after the planning phase is complete.
- 15. Development Services Training Simulator.** This project is on hold due to competing priorities.
- 18. Telestaff.** Telestaff Scheduling System is operational. Telestaff integration with Workday Payroll system on hold for a fully executed Accenture contract. ITS is working with DFR to develop a phased roll-out plan.
- 19. Smart Device/Technology Behavioral Health App for DFR members.** Project requirements are being re-evaluated.
- 22. IT Infrastructures for New Fire Stations 19, 21, 36, 41, 46, 58 & 59.** Project is being implemented in an agile fashion. Station 36 completion anticipated April 10, 2023.
- 23. Mobile Surveillance Platform Vehicles (Formerly known as Bait Car).** Awaiting funding to be identified.
- 26. WEB-RMS.** This project is still in the procurement process. Purchase request has been submitted. New date will be provided when available.
- 28. Ricoh-Fortis Document Management System Replacement.** This project is in the planning stages. New date will be provided when available.

As of 3/31/23

- 31. P25 Compliant Radio Project.** Effective with August 2022, the new P25 Public Safety Radio system was live, operational, and performing as designed. Non Public Safety departments have already been migrated to the new system. Final migration of all City of Dallas Departments is ongoing. As of 3/31/2023 all Public Safety departments other than DPD have completed the migration to the new system. ITS is working with DPD on distribution and logging of radios and coordinating training for end users. Anticipate full completion by the end of April 2023 for all City departments and users.
- 34. In Car Video - Body Worn Camera - Interview Room.** Budget costs reflect new 10-year contract from Council Resolution 221784 dated Dec 14, 2022.
- 36. Use of Force - Police Strategies LLC.** All initial project tasks have been completed. End date of project is currently 2026 aligned to the contract end date. Project will move into maintenance and removed from project inventory and tracking as the vendor has successfully delivered the base functionality.
- 40. ServiceNow Phase 2.** This project is being implemented in an “Agile” fashion – rolling out new functionality in numerous phases. Estimated completion of next phase June 2023.
- 42. Network Unified Communications Upgrade.** Project is being implemented in an agile fashion. Unity Voice Mail portion is now complete. The next phase, “Call Manager” has an estimated completion date of December 2023.
- 44. IT Project and Portfolio Management Tool.** Project schedule adjusted in anticipation of Council approval in June 2023.
- 46. Enterprise Capital Project Management System (ECPMS) Phase 2.** PCR pending by Vendor for updated requirements/deliverables for linear segments, linear structures and X/Y coordinates, working with DWU GIS to finalize requirements.
- 54. Implement Workday Prism.** Project On Hold awaiting new contract with Accenture for integration support. Contract has gone through multiple reviews and redlines. Anticipated completion of contract action by April 30, 2023.
- 55. PKR-IT Infrastructures for New Parks and Recreation Sites Phase 2.** Equipment has been received. Installation scheduled for Apr 2023.
- 60. Electronic Document Management - EDMS.** The EDMS project is part of a group of projects relying on the Hyland Software System, which are being developed serially. We are currently re- validating project budget, scope, and participating departments and will then re-work the schedule.
- 61. Boards and Commissions Management Solution.** Project is in User Acceptance Testing. Anticipate Go-Live in April.
- 62. SEC Records Inventory Management Solution.** Requirements have been developed. Awaiting Council approval.
- 63. Build an Ethics Financial Reporting Solution.** Project date will be updated after this project has completed the procurement process.

C. Changes to Major Project Status List

1. Projects Implemented since last report.
 - a. Automated Nuisance Abatement Work Order Salesforce System (#6 on 2/28/23 TAR) – implementation is complete. This project has been removed from the TAR.
 - b. HUD Income Limits Eligibility Survey - HOU Website (#50 on 2/28/23 TAR) – implementation is complete. This project has been removed from the TAR.
 - c. Advanced Traffic Management System (ATMS) (#66 on 2/28/23 TAR) – implementation is complete. This project has been removed from the TAR.

2. New Projects added to the project Pipeline - The following projects were approved by the IT Governance Board on March 16, 2023.
 - a. “Department of Aviation INDMEX AirBOSS Vehicle Tracking” was approved to modernize airport staff’s ability to track ground vehicles and aircraft movements and increase operational safety.
 - b. “Short Term Rental Enforcement Database” was approved to provide the Code Compliance Department better ability to enforce zoning and registration ordinances for short term rentals.
 - c. “DWU Ancile U Perform Upgrade” was approved to modernize DWU’s internal training capabilities.
 - d. “Data Export and Import for NeoGov and Other Applications Being Offboarded” was approved to provide Data Warehousing for specific data in accordance with Data Retention Policies.
 - e. “ITS Support Resources for HR Workday Module Implementations” was approved to implement Recruitment, Learning, Performance, Advanced Compensation and Benefits modules in the Workday Human Resources system.

3. Other significant news – The DFR Fire Station Alerting System Request For Proposal (RFP) has posted, effective 3/30/2023. For more information, see the posting at <https://dallascityhall.bonfirehub.com/opportunities/91092>.

Section 2: IT Operations

IT Operations provides information and status updates on the IT operations to include outages and incidents impacting city operations. Source data is drawn from the City's ServiceNow platform which was implemented in April 2021 to better manage incident reporting and resolution and to better track and control requests for IT services. ServiceNow documents incidents and service requests and is used by technicians and departments alike to submit, track, manage, and resolve pending requests and issues.

As of 3/31/23

A. Outage Report

1. Monthly Help Desk Report

Category	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Total Calls	7502	7546	8006	7252	7616	7151	7222	9694	6969	8230
Answered	7136	7138	7763	7017	6921	6132	6222	7117	6778	8048
Abandoned	366	408	243	235	695	1019	1000	1084	191	182
Abandoned (<10sec)	166	172	115	93	273	408	380	1493	81	81
Abandoned %(<10sec)	2.3	2.4	1.5	1.3	3.9	6	5	8	1	1

Metric	Current Month	Trend						
Average Speed to Answer - Voice	00:10							
Password Related Incidents	60%	<table border="1"> <tr> <td>Jan</td> <td>22.3%</td> </tr> <tr> <td>Feb</td> <td>54.6%</td> </tr> <tr> <td>Mar</td> <td>59.9%</td> </tr> </table>	Jan	22.3%	Feb	54.6%	Mar	59.9%
Jan	22.3%							
Feb	54.6%							
Mar	59.9%							
First Contact Resolution - Incident	84.16%	<table border="1"> <tr> <td>Jan</td> <td>82%</td> </tr> <tr> <td>Feb</td> <td>71%</td> </tr> <tr> <td>Mar</td> <td>84%</td> </tr> </table>	Jan	82%	Feb	71%	Mar	84%
Jan	82%							
Feb	71%							
Mar	84%							
Average Duration - Service Desk	0.43 Days 626 Minutes	<table border="1"> <tr> <td>Jan</td> <td>2254</td> </tr> <tr> <td>Feb</td> <td>637</td> </tr> <tr> <td>Mar</td> <td>626</td> </tr> </table>	Jan	2254	Feb	637	Mar	626
Jan	2254							
Feb	637							
Mar	626							
Average Duration - Field Services	5.51 Days 7937 Minutes	<table border="1"> <tr> <td>Jan</td> <td>4507</td> </tr> <tr> <td>Feb</td> <td>4247</td> </tr> <tr> <td>Mar</td> <td>7935</td> </tr> </table>	Jan	4507	Feb	4247	Mar	7935
Jan	4507							
Feb	4247							
Mar	7935							
Average Duration - PD Field Services	6.56 Days 9452 Minutes	<table border="1"> <tr> <td>Jan</td> <td>5578</td> </tr> <tr> <td>Feb</td> <td>3088</td> </tr> <tr> <td>Mar</td> <td>9452</td> </tr> </table>	Jan	5578	Feb	3088	Mar	9452
Jan	5578							
Feb	3088							
Mar	9452							

*Password Related Incidents calculation issue resulted in prior months being previously reported incorrectly

NOTES:

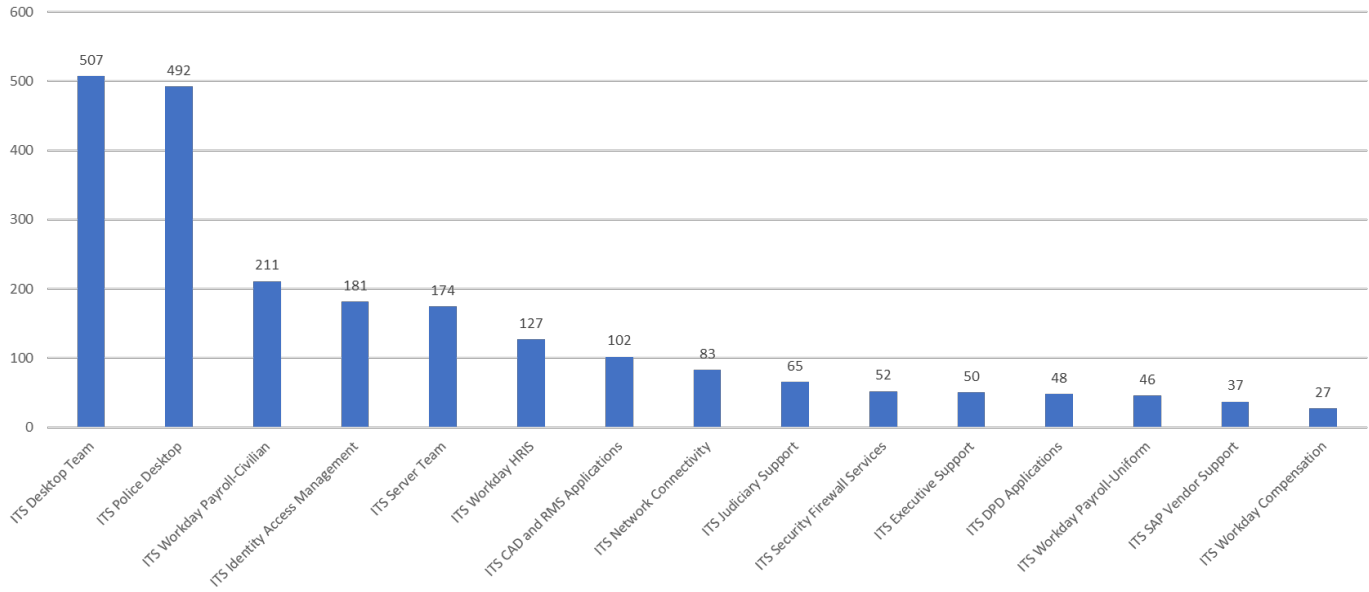
- In March 2023, the IT Helpdesk received 8230 calls for support. This is a 1,200+ increase over February which saw over 6969 calls, however, is more in line with a yearly average of ~7700 per month.
- First Contact Resolution (Incidents) for March is 84.1% a modest increase from February of 71% however, slightly below goal of 85% and above the yearly average of 70%.

As of 3/31/23

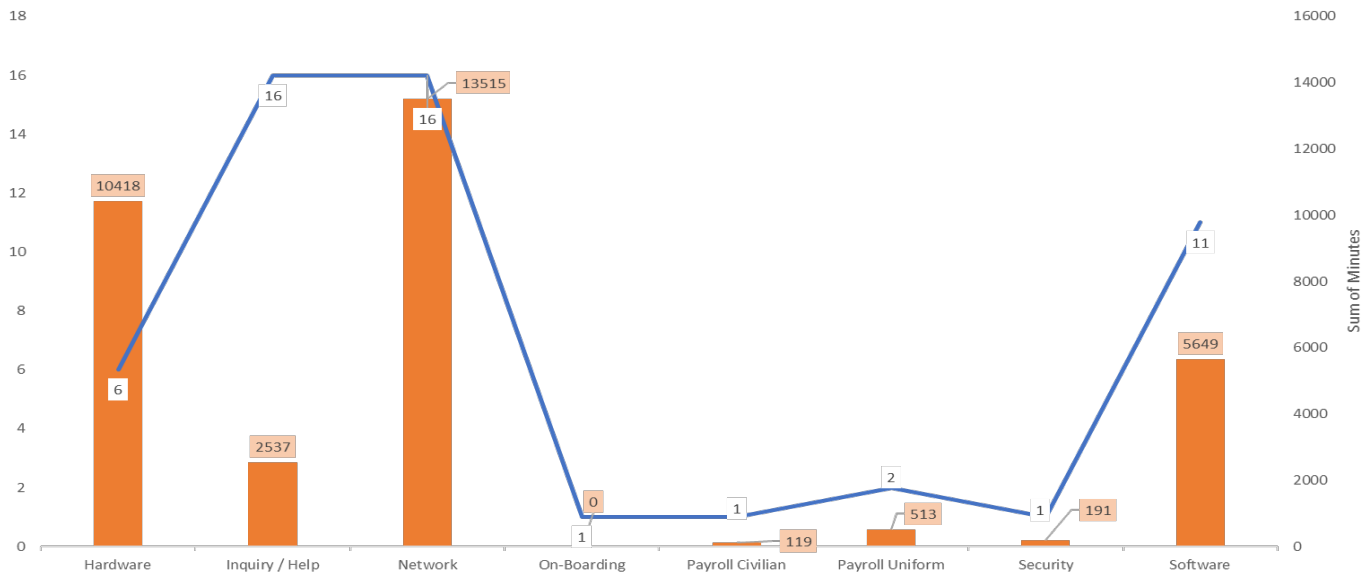
- 3. Field Services (excluding DPD) average service duration of 5.51 days in March is an increase from 2.94 days in February.
- 4. Field Services for DPD saw a similar increase in average service duration 6.56 days in March from 2.14 days in February.

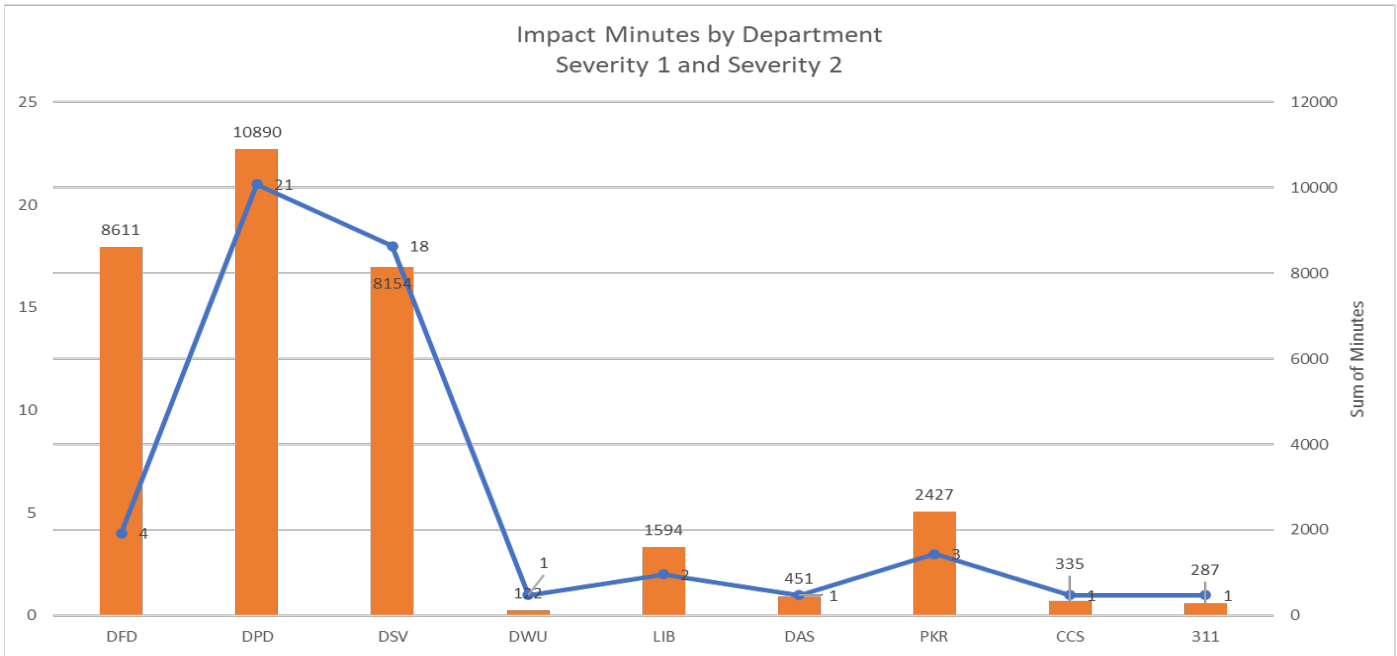
2. Monthly Incident Report (Break/Fix “My Computer doesn’t work”)

Top 15 Assignment Groups Incidents March 2023



Impact Minutes by Issue Category Severity 1 and Severity 2

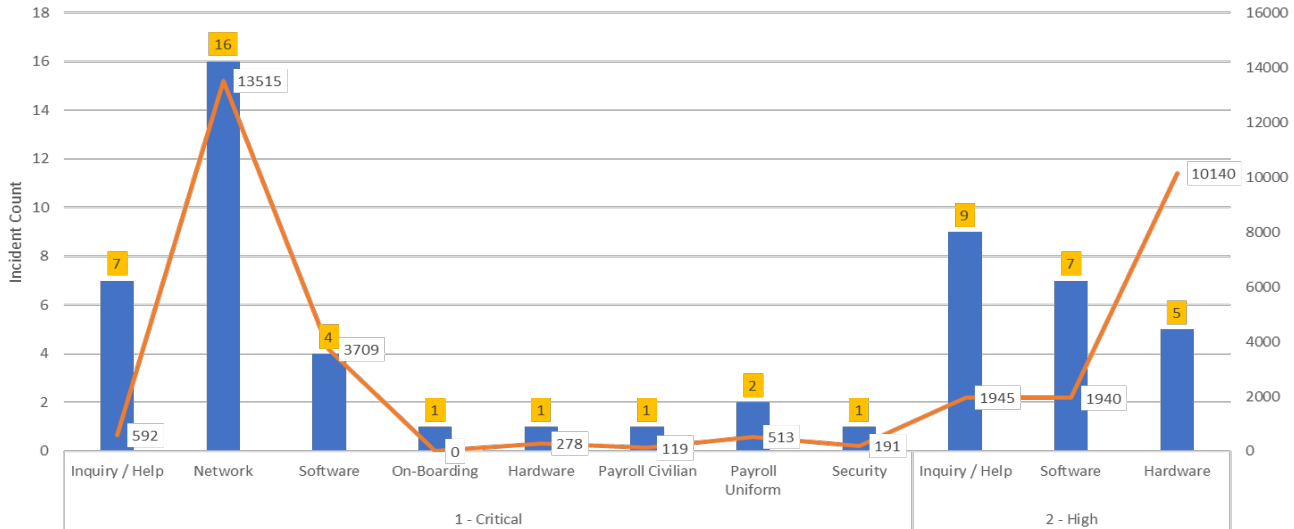




NOTES:

1. Severity 1 and Severity 2 incidents are the most severe and most likely result in degraded services or outages that impact the ability of City departments to fulfill their missions.
2. This chart tracks the number of reported incidents by department, along with the total number minutes the incident(s) potentially impacted them.
3. These data points are extracted from ServiceNow based upon input by city IT technicians. Our analysis reveals that there are incidents which are resolved but have not been timely or appropriately closed out within the ServiceNow platform, resulting in artificially inflated resolution timeframes. ITS is working with IT service delivery managers to improve documented processes to ensure timely updates to ServiceNow in order to accurately reflect the actions for the incident and to provide a more representative experience. As is demonstrated by the reduction in MTRR over the past several months, our efforts in this area are having positive results.

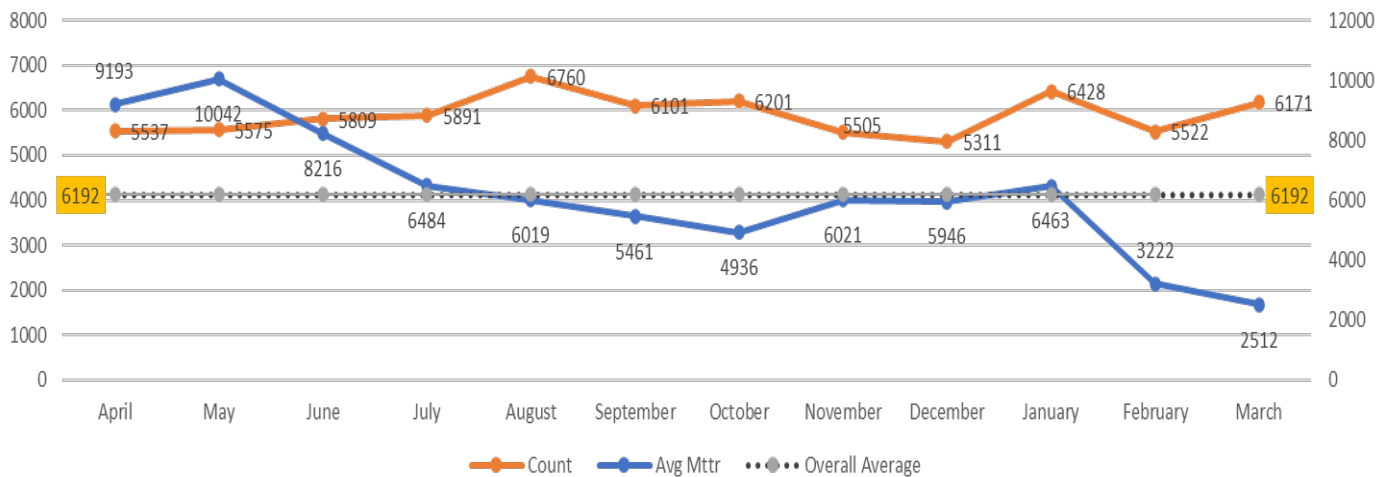
Severity 1 and 2 by Issue Category
Impact in total minutes



NOTES:

1. This chart provides the distribution of incidents and impact minutes over specific services and delineated by Critical and High severity.

Monthly MTTR



NOTES

1. This chart provides the trendline for the average mean time to repair (MTTR), an industry standard for tracking the timeliness of resolution on reported incidents.
2. In March 2023, the MTTR continued downwards averaging just over 2500 minutes, on a count similar to October of 2022 where the MTTR was in the 5000-minute range.
3. Diligence by the technicians to document and resolve tickets in a timely manner is the primary driver of the reduction in MTTR.

*Open incidents may impact March MTTR in April report

3. Monthly Major Outage Report

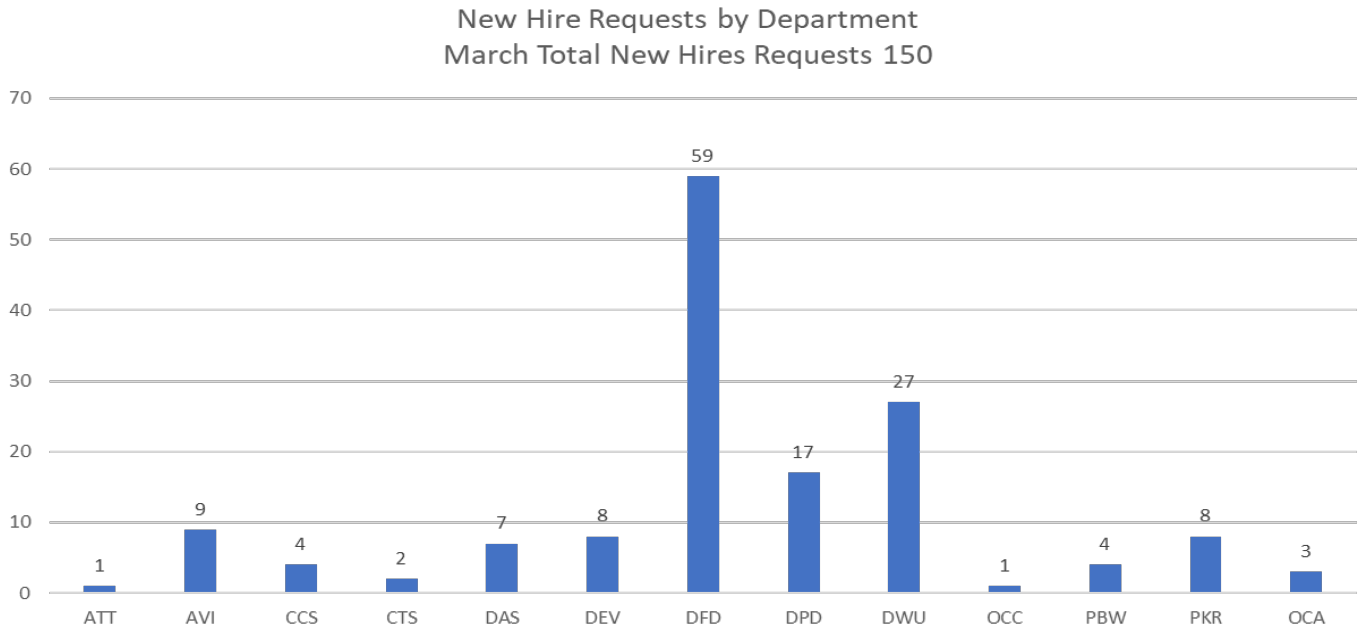
Priority	Description	Department	Primary	Secondary	Assignment Group	Hours
1 - Critical	Network Outage 3015 Chapel Oaks Dr.	DFD	Network	Outage	ITS Network Connectivity	114.0
2 - High	Scan to One Drive Users receiving Auth Error. Please contact administrator	DPD	Hardware	Network Printer	ITS Police Desktop	64.3
1 - Critical	APDPDGISMAP02 SQL server down - Restore from backup needed for 3 drives needed I 1500 MARILLA	DSV	Software	Data Recovery/Tra	ITS Backup Team	58.7
2 - High	Network Unable to access (H:) Drive: 725 S Jim Miller	DPD	Hardware	Hard Drive	ITS Server Team	50.1
1 - Critical	Network Outage Parks and Recreation's Senior division	PKR	Network	Outage	ITS Network Engineers	35.1
2 - High	Network FLAPPING on Synergy Frames (multiple network ports VSF301/302)	DSV	Hardware	Server	ITS Server Team	28.8
1 - Critical	Network \ telecom outage: Fire Station 38	DFD	Network	Outage	ITS Network Engineers	24.3
2 - High	VDI Library VDI's cannot reach assigned desktop Multiple Libraries	LIB	Hardware	Workstation/Compu	ITS Server Team	23.4
2 - High	Unable to get to the shares on FSEDS00	DSV	Inquiry / Help	Policy/Procedure	ITS Server Team	10.7
1 - Critical	NETWORK Invalid Certificate Error	DSV	Network	Outage	ITS Security Firewall Services	9.8
1 - Critical	Phone Support All phones are down: 725 N JIM MILLER ROAD	DPD	Network	Outage	ITS Network Engineers	9.6
2 - High	PC Support DPD homepage is not fully loading and times out Jack Evans Internal Affairs	DPD	Software	Troubleshooting	ITS Web Team	9.1
2 - High	Server VMWare server error	DSV	Inquiry / Help	Escalation/Status	ITS Server Team	8.5
2 - High	Server/Application L3 Server Application down - 1400 S Lamar	DPD	Software	Troubleshooting	ITS Server Team	8.2
2 - High	Chameleon: Not responding: City Wide	DAS	Software	Troubleshooting	ITS Animal Shelter Applications	7.5
1 - Critical	Network Network Outage	DPD	Network	Outage	ITS Server Team	5.8
1 - Critical	Network Network Outage 2719 Municiple St	CCS	Network	Outage	ITS Network Engineers	5.6
1 - Critical	Application Salesforce is not allowing any of the agents to submit service requests.	311	Inquiry / Help	Escalation/Status	ITS Salesforce Apps	4.8
2 - High	PC Support unable to connect to Vmware	DSV	Inquiry / Help	Escalation/Status	ITS Server Team	4.7
1 - Critical	Server Central L3 Server Application is down 1400 Botham Jean Blvd	DPD	Hardware	Server	ITS DPD Applications	4.6

NOTES

1. Major outages are identified as Severity1 that have significant impact to City services or Department's ability to perform critical functions and last over 4 hours in duration. As we mature the process this definition will be better scoped around impact and less around duration.
2. Outages with #value are incidents that had over 4 hours of impact, however, are incomplete of details to identify full impact to departments
3. March saw a decrease in both average time to repair and total outage time for Major Incidents compared to February. March average MTTR of 24.4 hours compared to February of 46.7 hours. March total outage 487 hours compared to February which had 747 hours
4. March saw 20 Major incidents, 10 critical and 10 high, an increase of 4 over February of 16, 4 critical and 12 high.

B. Service Requests (including new employee onboarding)

1. New Hire Report



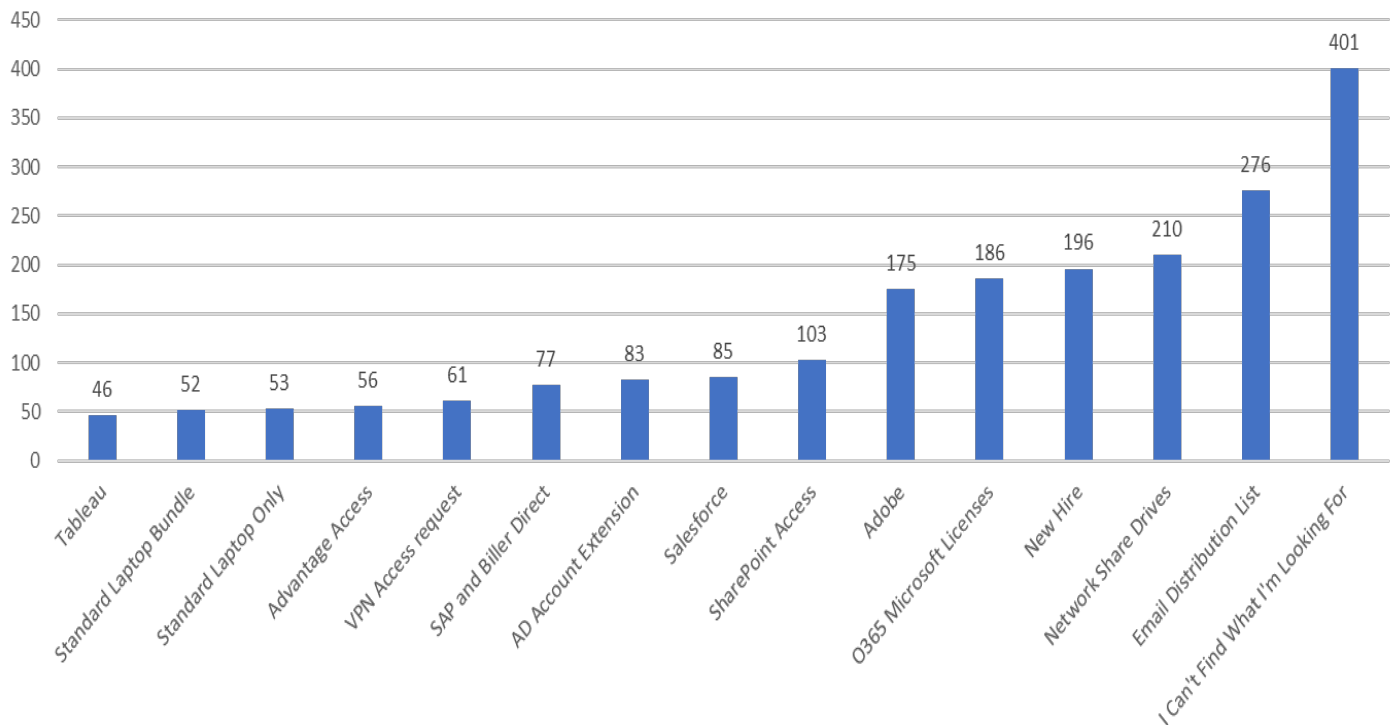
Notes

1. In the month of March, a total of 150 requests were opened for new employees.
2. DFD, DPD, and DWUW being the top 3 hiring departments. DWU has had 6 consecutive months in the top 3.
3. Blank indicates no department match was available for the requested onboarding at the time the report was generated.

As of 3/31/23

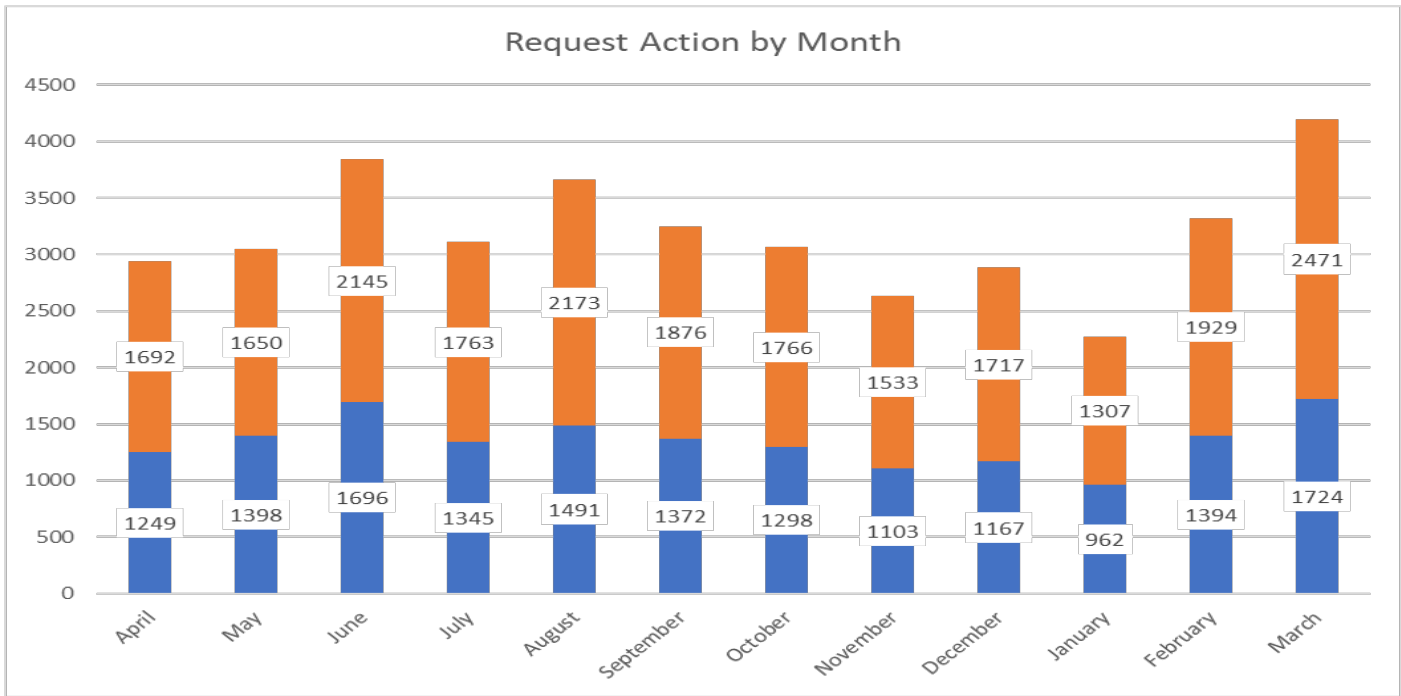
2. Service Request Report (An ask for service – “I need Software Installed”)

Top 15 Requested Items
March 2023



Note

1. March Service Request actions totaled 2471 an increase of ~550 over February which totaled 1929. This report depicts the top 15 Request by type that were selected.
2. “I Can’t Find What I’m Looking For” is a category used when a service catalog item does not exist for what the user is asking.



Note

1. This chart illustrates that 1724 Request Tickets, generated 2471 Request Actions. Frequently one Request generates multiple actions to be completed by one or more teams to fulfill the ask.

Section 3: IT Budget Execution

IT Budget Execution provides information on the execution of the IT budget, the management of technology procurements, and the management of IT Human Capital. Unless otherwise indicated, information in this section is effective through 2/28/2023.

A. Contract/Procurement Management

Upcoming Contracts Requiring Council Approval

Items Approved on the April 12, 2023 Agenda:

22nd Century Technologies, Inc.

- 5-year agreement
- Contract amount \$12,583,720
- Installation of a network of secondary circuits at City Hall and crucial City sites to enable the City to continue operating in the event primary circuits become inoperable as a result of a disaster or other business disruption.

Netsync Network Solutions – purchase of hardware, installation and deployment of a backup and recovery solution

- 5-year agreement
- Contract amount \$2,173,000
- System to back up data across the City's on-premise servers, cloud environment, and in Microsoft O365.

As of 3/31/23

Upcoming Council Agenda Items:

April 26 Agenda Item:

Carahsoft Technology – upgrade the existing financial system to the latest release of CGI Advantage Cloud Advantage Financial System

- 5-Year agreement
- Contract Amount - \$11,823,168
- Re-engineer the City’s highest priority business processes using Human Centered Design methodology
- Configure the upgraded CGI Advantage applications to align to the City’s business processes
- Convert the City’s highest priority reports to new dashboards, scorecards and ad hoc reports
- Identify two (2) high-value business processes for automation using Robotic Process Automation (RPA)
- Develop and execute end user training on new features and user interface for over 600 users prior to go-live

New Solicitation

Fire Station Alerting System (BCZ23-00021813) – system to replace Locution

- Advertised and posted in Bonfire on March 30
- Site visits will be conducted the week of April 24
- Proposals are due on May 26

B. Budget Performance & Execution

Fund 0191-9-1-1 System Operations as of February 2023

Expenditure Category	FY 2022-23 Adopted Budget	FY 2022-23 Amended Budget	YTD Actual	YE Forecast	Variance
Civilian Pay	643,798	643,798	214,147	603,763	(40,035)
Pension	91,413	91,413	30,734	85,760	(5,653)
Health Benefits	54,481	54,481	15,122	54,481	-
Worker's Compensation	1,658	1,658	1,658	1,658	-
Other Personnel Services	14,262	14,262	9,174	14,906	644
Total Personnel Services	805,612	805,612	270,835	760,568	(45,044)
Supplies	201,465	201,465	26,369	201,465	-
Contractual Services	13,205,665	13,205,665	5,637,484	13,063,868	(141,797)
Capital Outlay	-	-	-	-	-
Reimbursements	-	-	-	-	-
Total Expenditures	14,212,742	14,212,742	5,934,688	14,025,901	(186,841)

Fund 0197 - Communication Services (Radio Network) as of February 2023

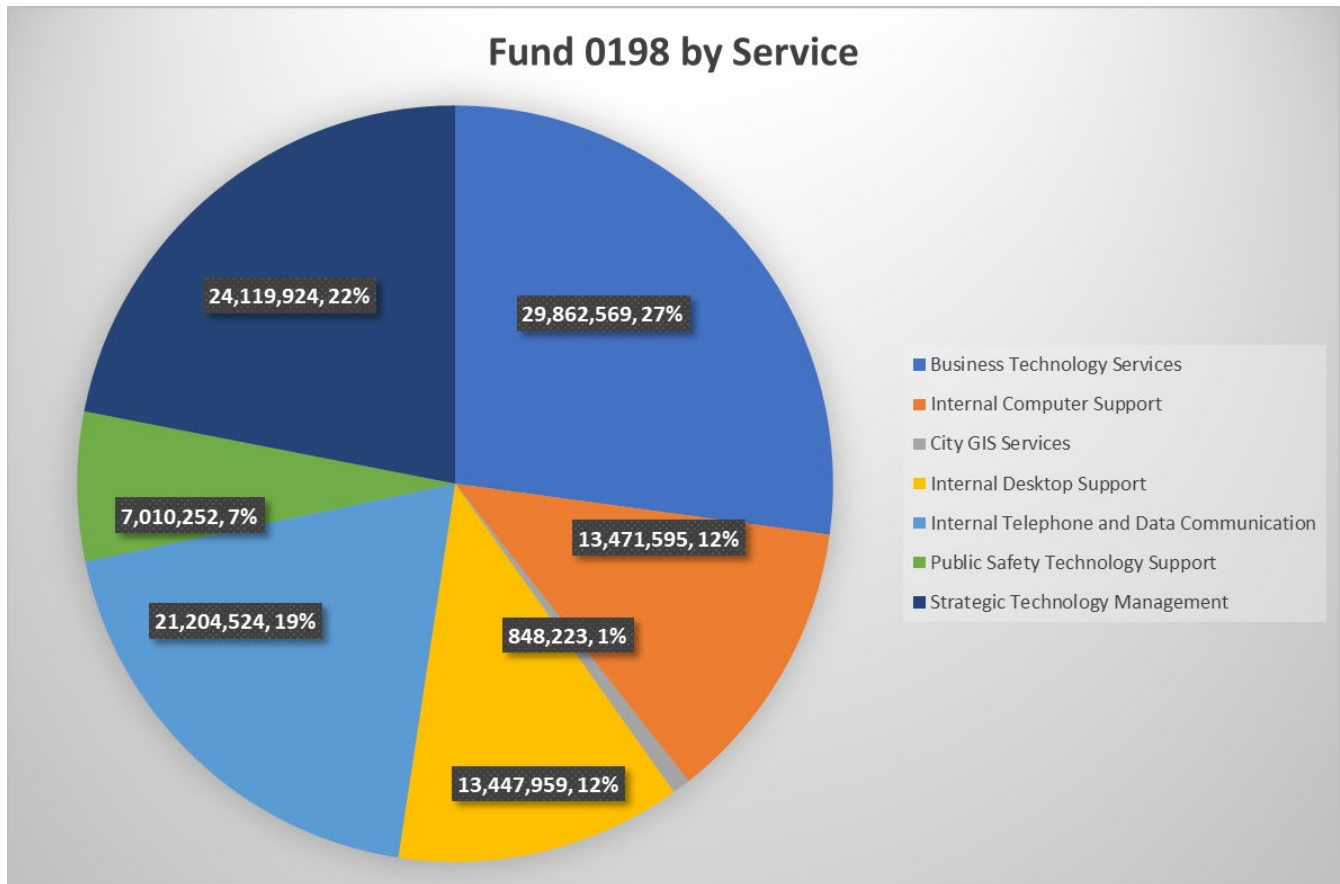
Expenditure Category	FY 2022-23 Adopted Budget	FY 2022-23 Amended Budget	YTD Actual	YE Forecast	Variance
Civilian Pay	1,995,477	1,995,477	673,852	1,831,514	(163,963)
Overtime Pay	51,320	51,320	85,438	105,491	54,171
Pension	282,080	282,080	108,398	268,869	(13,211)
Health Benefits	234,423	234,423	60,178	234,423	-
Worker's Compensation	7,197	7,197	7,197	7,197	-
Other Personnel Services	33,819	33,819	27,518	47,805	13,986
Total Personnel Services	2,604,316	2,604,316	962,581	2,495,299	(109,017)
Supplies	1,156,482	1,156,482	339,608	725,512	(430,970)
Contractual Services	13,106,759	13,106,759	3,880,261	13,646,647	539,888
Capital Outlay	-	-	-	-	-
Reimbursements	-	-	-	-	-
Total Expenditures	16,867,557	16,867,557	5,182,450	16,867,457	(100)

As of 3/31/23

Budget Performance & Execution (continued)

Fund 0198 – Data Services as of February 2023

Expenditure Category	FY 2022-23 Adopted Budget	FY 2022-23 Amended Budget	YTD Actual	YE Forecast	Variance
Civilian Pay	20,152,694	20,152,694	6,106,799	17,909,280	(2,243,414)
Overtime Pay	41,612	41,612	8,697	41,612	(0)
Pension	2,858,569	2,858,569	868,643	2,572,297	(286,272)
Health Benefits	1,609,376	1,609,376	363,794	1,609,376	-
Worker's Compensation	49,182	49,182	49,182	49,182	-
Other Personnel Services	1,036,948	1,036,948	220,385	1,069,320	32,372
Total Personnel Services	25,748,381	25,748,381	7,617,500	23,251,067	(2,497,314)
Supplies	759,552	759,552	1,931,054	1,828,273	1,068,721
Contractual Services	83,683,424	83,683,424	50,092,065	84,885,707	1,202,283
Capital Outlay	-	-	-	-	-
Reimbursements	-	-	-	-	-
Total Expenditures	110,191,357	110,191,357	59,640,620	109,965,047	(226,310)



C. ITS Staffing & Hiring Report

1. ITS Funded Staffing Levels

IT Fund	FY 20	FY 21	FY 22	FY 23	FY 24 Plan
Fund 0191 - 9-1-1 Technology Support	7.0	7.0	7.0	7.0	7.0
Fund 0197 - Radio Communications	28.0	28.0	30.0	30.0	30.0
Fund 0198 - Data Services	204.0	190.0	204.0	223.0	223.0
Total	239.0	225.0	241.0	260.0	260.0

2. Vacancies and Hiring Activities

- As of March 31, 2023, ITS had 62 vacancies out of the available 260 positions.
- As of March 31, 2023, of the 62 vacancies the disposition was:
 - 14 are in draft posting
 - 4 are undergoing reclassification to re-align within the ITS department
 - 18 are awaiting posting
 - 3 are actively posted
 - 23 were previously posted
 - 4 are under review
 - 22 are at the interview stage
 - 2 are completing a second round of interviews
 - 3 have pending offers with candidates
- During March ITS completed 2 promotion actions and onboarded 1 new employee

Section 4: Cybersecurity Programs

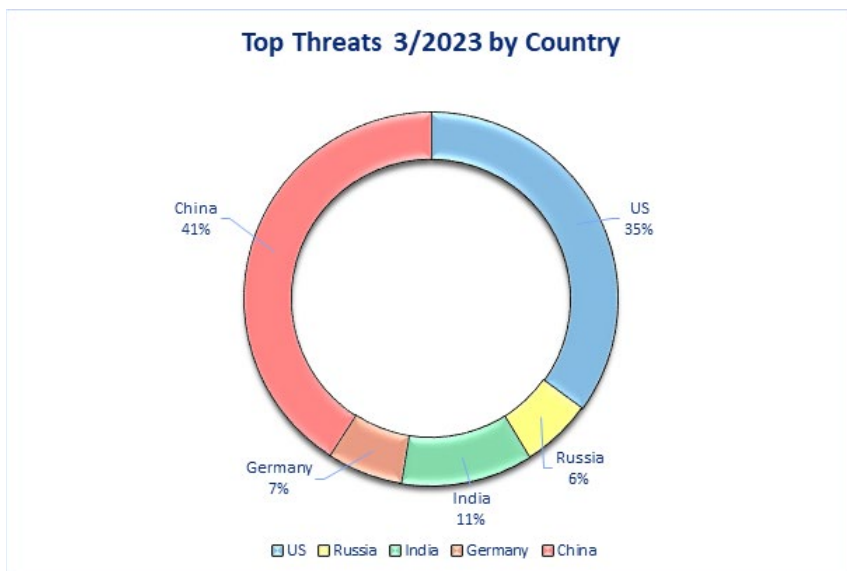
A. Current Cyber-threat Landscape

January 2023 threat’s landscape has begun with an exhaustive list of cyber-attacks, ransomware attacks, and data breaches. Multiple high-profile organizations, including healthcare providers, educational institutions and government bodies, have reportedly become targets of cyber-attacks. IT governance reported 104 publicly disclosed cyber exposing 277 million records in January. T-Mobile, University of Miami, Tucson Unified School District, and Des Moines School District, all were victims of ransomware. More recently Cities of Oakland and Modesto also fell victim to ransomware, causing a state of emergency, closing city hall, and disrupting services to their residents.

Local governments continue to be targeted by phishing attacks, which typically involve an email or other message that appears to be from a legitimate source using a clickable link to deliver malware and ransomware to spread within the organization.

The City of Dallas’s cyber-fusion center reports roughly 750,000 observable threats for the Month of January. Ransomware attacks are followed by or in combination with supply chain attacks and State sponsored attacks. Supply chain attacks come from using compromised third-party software as an opening into government system. In addition, State-sponsored cyber-attacks continued to be a focus, from China, Russia, and Iran. In 2023, cybercrime activity is expected to pass 8 trillion in cost to organization.

The following shows the top threats present in March 2023 by country:

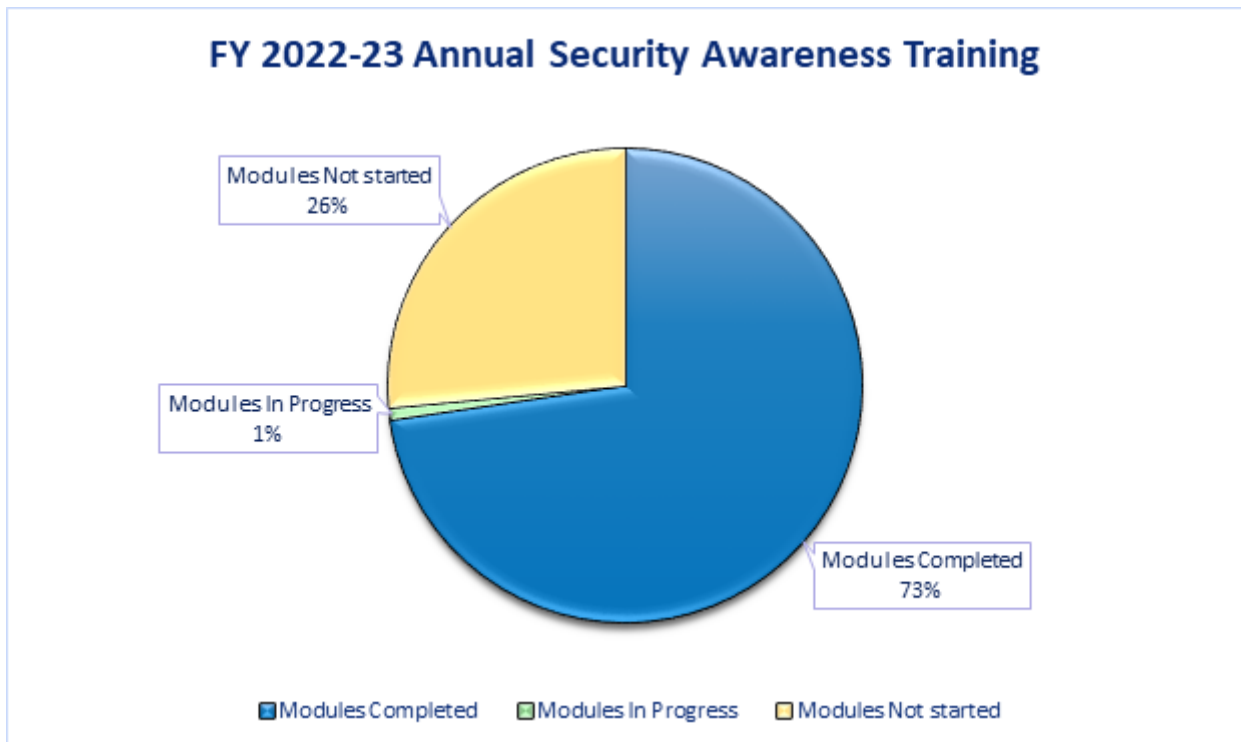


B. Awareness Training

Security Awareness training is measured on an annual basis. Over the past 12 months ITS has witnessed a steady decline in risk scoring for Employee’s annual training. Beginning with each new fiscal year the City will undergo a new set of security awareness courses to meet not only the best practices, but State of Texas House Bill 3834 requirements for all government employees. The information below illustrates the enrollment and completion efforts of employee training over the course of the year. FY 2021-22 the City completed 99% of 18 training campaigns covering HIPAA, PCI, and Cybersecurity. FY 2022-23 started has started with City employees notified of their mandatory security awareness training requirement and instructions for completion.

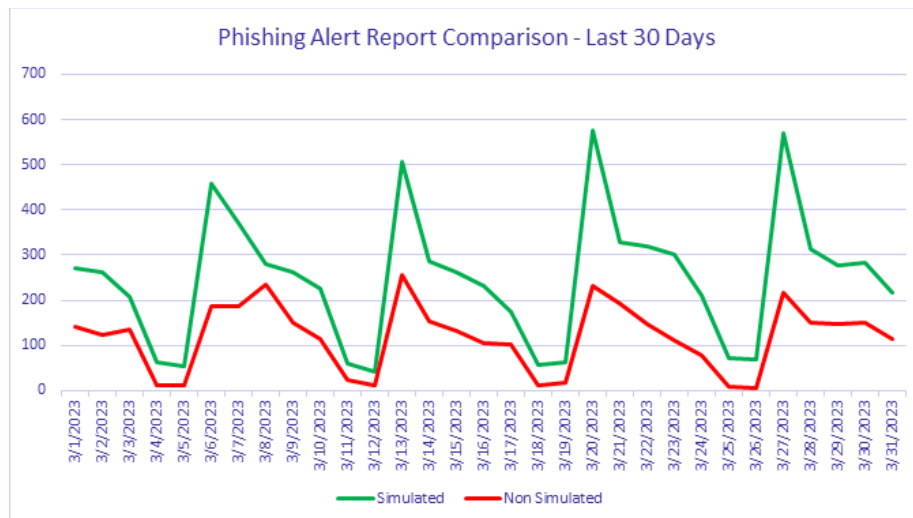
NOTE: employees with less than 25% of job functions involving technology are not required to complete the annual cybersecurity training.

The following shows the status of mandatory security awareness training for City employees as of March 31, 2023:



Additionally, ITS continuously applies best practices for managing employee cyber-risk from phishing attempts and their ability to recognize and appropriately handle phishing incidents. Campaigns designed around real-world scenarios, typically taken from recent events, are sent out to the employee population to test their ability to distinguish and appropriately act upon the potential threat. This provides feedback to the employees as well has increased the actual amount of true phishing reported. To facilitate reporting, a “Report phishing” button was added to user’s Outlook interface, which has increased both the numbers of test phish and actual phishing emails.

The first graph shows phishing test activities for City employees, while the second shows phishing reporting activity for simulated and unsimulated events as of March 31, 2023:



C. Situational Awareness

Annually ITS assess the overall Security posture of the organization based upon the NIST Cybersecurity Framework (CSF). Each category within the NIST CSF is evaluated for the current level of maturity and expectant maturity level. This process uses current and projected technologies and documented standards and procedures to complete the process. ITS utilizes both internal and external resources to conduct assessments. The results of the assessments are used by ITS to develop security strategy for cybersecurity and privacy. The below figure outlines the maturity model for the CSF. While the TAR does not provide our scores from our self-assessment, ITS can provide this information to Council members and discuss the assessments in depth as requested.

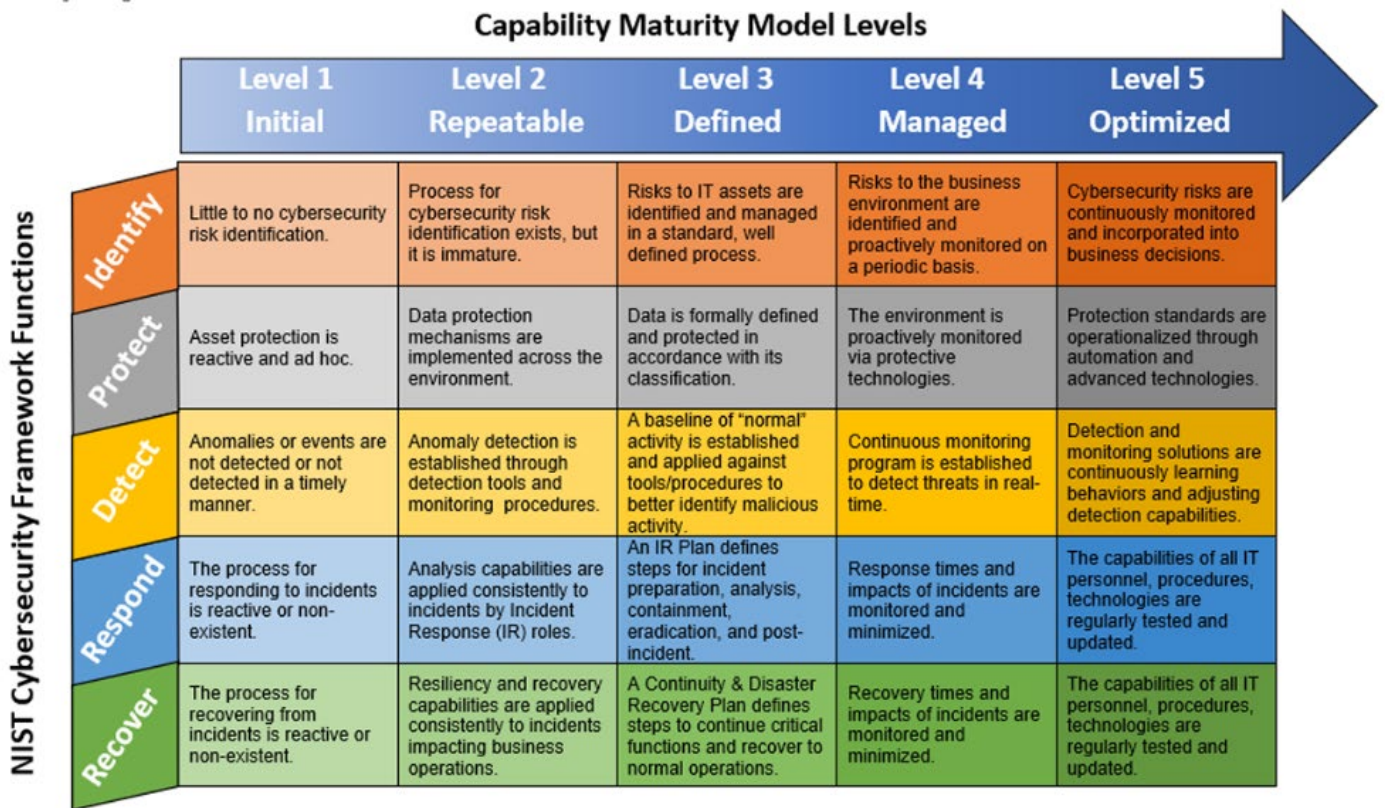
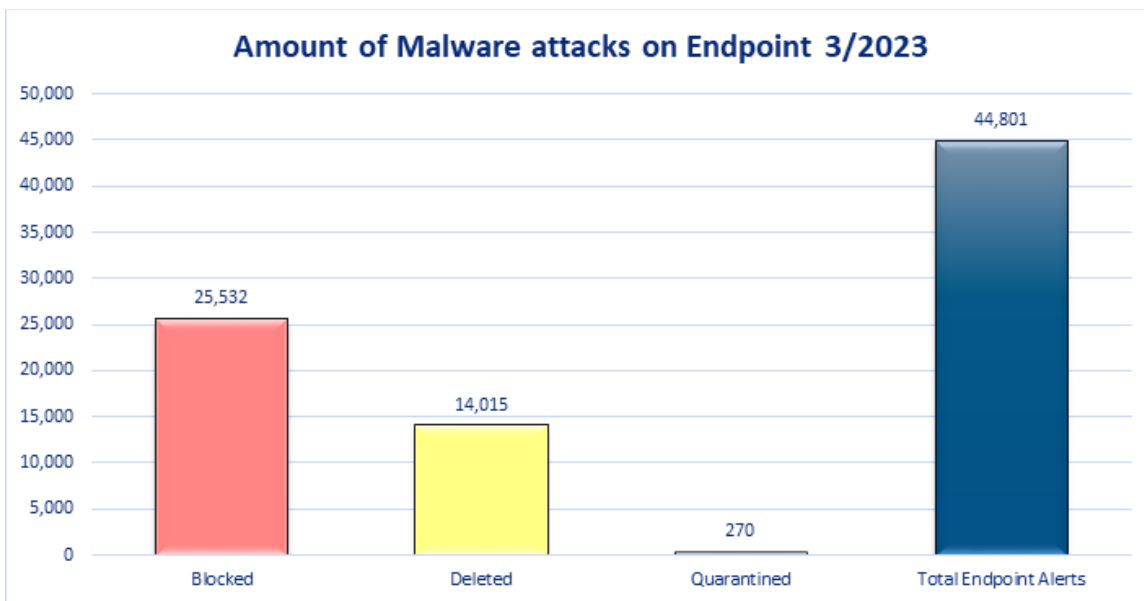
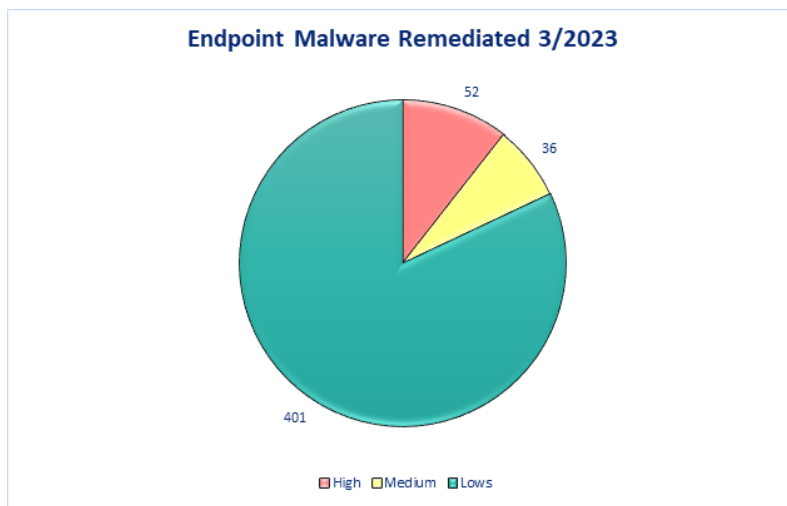


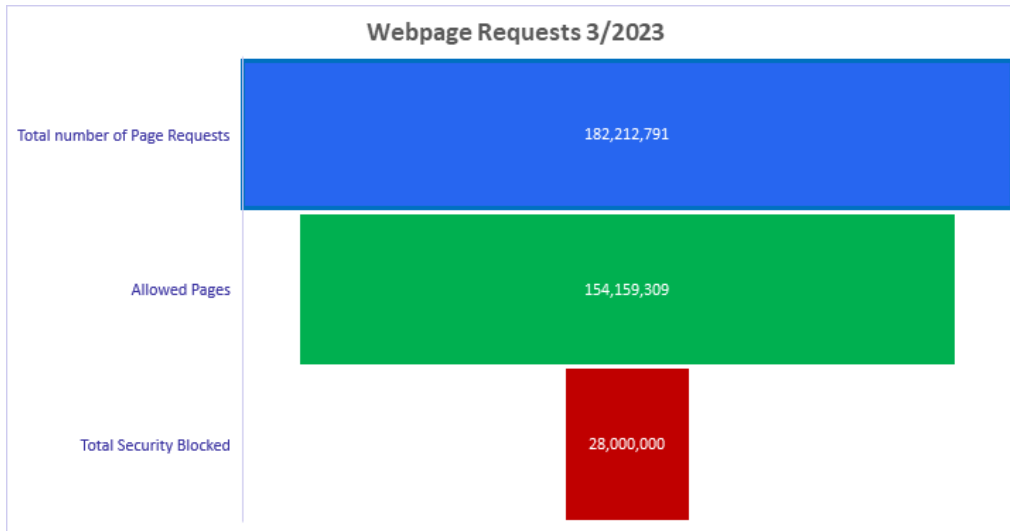
Figure 3: Assessing Cybersecurity Maturity

D. Data Protection & Privacy

1. Endpoint Protection

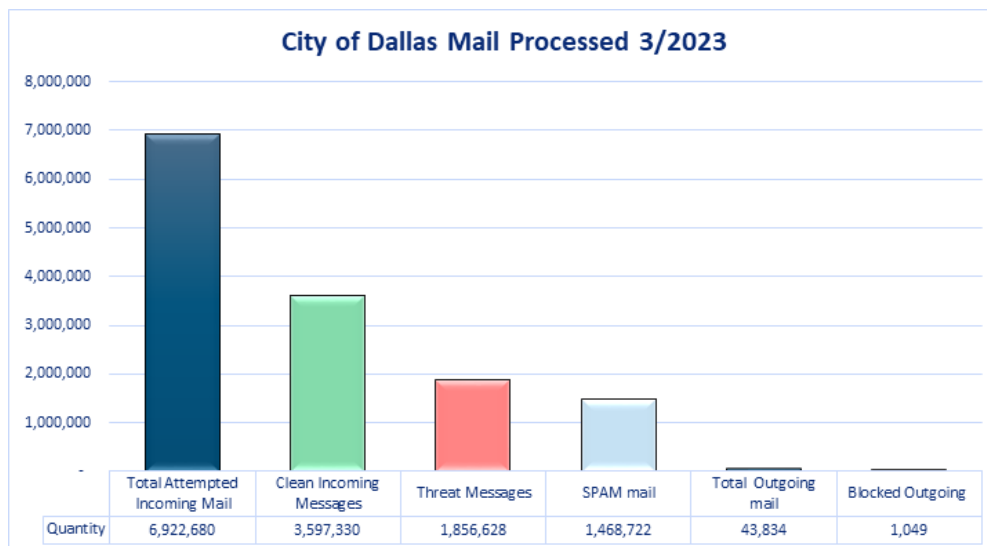
Endpoint protection is one component to the organization’s ability to handle daily malware. All devices needing connection to the internet are subject to attacks. Attacks are mitigated through technologies monitoring the systems in real time reacting and responding to those attacks. Technologies like Firewall and Endpoint Detection and Response all are in place to respond to those attacks. Below charts provide March 2023 metrics on endpoint attacks, malware attacks, and blocked webpage requests representing threats.





2. Email Screening

The City of Dallas receives and sends millions of emails each month. Phishing is an attack vector utilized by bad actors (in the form of social engineering) as a means to gain internal access to an organization’s network. A successful email-based phishing attack can then be used to place malware, ransomware, and other malicious software onto a user’s device providing access to the City’s network and posing a risk to City services or data. Along with security awareness training and simulated phishing campaigns, a key tool is screening email traffic and blocking known phishing attacks. Below provides a picture of mail messages processed and remediated prior to being received by a City user.



Section 5: IT Infrastructure

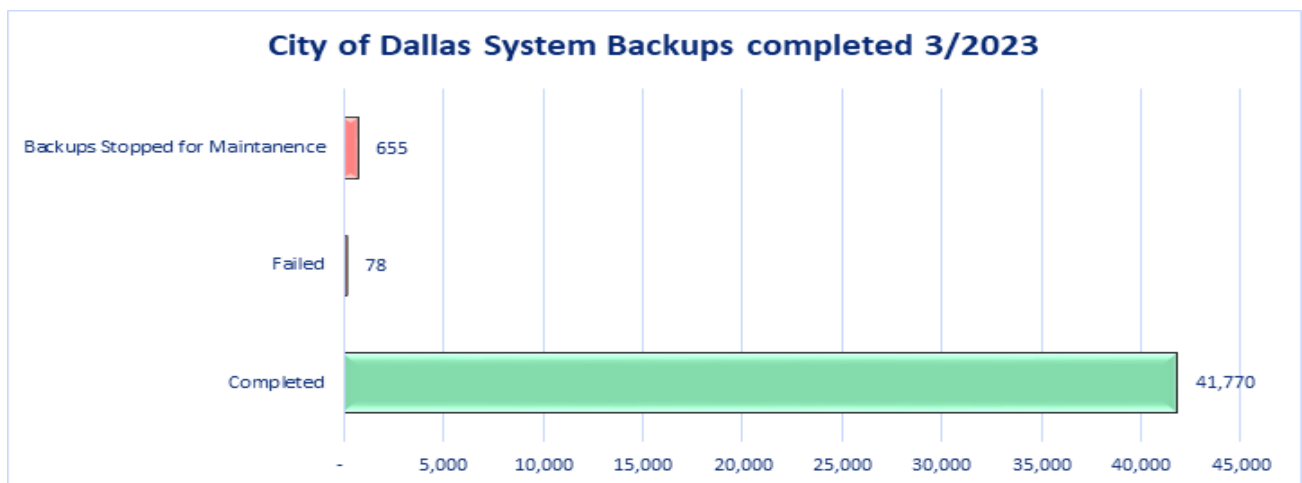
IT Infrastructure information and status updates on efforts to upgrade and improve the IT infrastructure used by the City to reduce technical debt, better meet current needs, and build for future service needs.

A. Resiliency - Disaster Recovery and Business Continuity

Resilience is essential in the City’s IT environment because it ensures that the system can continue to function effectively and efficiently even when unexpected events occur. This can include things like hardware or software failures, power outages, natural disasters, and cyber-attacks. Lack of resiliency impacts Local government to prolonged outages, data loss, and security breaches. These can be costly in terms of services to residents, loss of public trust, and regulatory penalties.

Resiliency can be achieved through a combination of redundancy, fault tolerance, disaster recovery planning, and proactive monitoring and maintenance. By designing and implementing resilient IT systems, the City can minimize the impact of disruptions and maintain business continuity, ensuring that critical applications and services remain available. ITS has begun evaluating on opportunities to design the City’s IT environment to improve resilience.

A critical component of Disaster Recovery and Business Continuity practices is backing up critical data, testing data backups, and conducting exercises to ensure that data backups can be successfully utilized to restore business services.



B. Technical Debt

Technical debt can be defined as *the accumulation of design or implementation compromises made during the development of software, applications, or systems*. As well, many organizations incur technical debt by not upgrading and/or maintaining their technology infrastructure in a timely manner to ensure the delivery of better/best-in-class technology services to their customers. Similar to how financial debt accrues interest over time, technical debt also accumulates and incurs a cost in the form of increased maintenance and development time, reduced quality, and decreased productivity.

Generally, technical debt is categorized by three types:

- **Intentional tech debt:** This is created deliberately by an organization in an effort to get technical capability into production more quickly. This form of tech debt involves a premeditated choice where an organization knowingly accepts some level of instability, insecurity, poor performance, user dissatisfaction or some other type of problem in exchange for launching the product sooner. This form of tech debt introduces risk, but represents a known risk that can be documented, tracked, and remedied over time.
- **Unintentional tech debt:** This form of tech debt arises from sloppiness, unexpected complexity, or a lack of technical expertise in designing and implementing software systems. This type of tech debt may be documented, but usually it is not because it often remains unknown until an event occurs revealing the issues or errors. Unintentional tech debt can still be remediated, but the development process will need to be adjusted accordingly, impacting the function and value of software.
- **Environmental tech debt:** This category of tech debt occurs over time and without effort. A system may be developed well, implemented well, and perform well at the time of implementation, but if not managed over time, environmental technical debt is likely to accrue because the environment in which it operates is in flux and changing. The technology will change, the needs of its users will change, and the capabilities of the devices on which it operates will change rendering a system that was originally well-designed unhealthy over time.

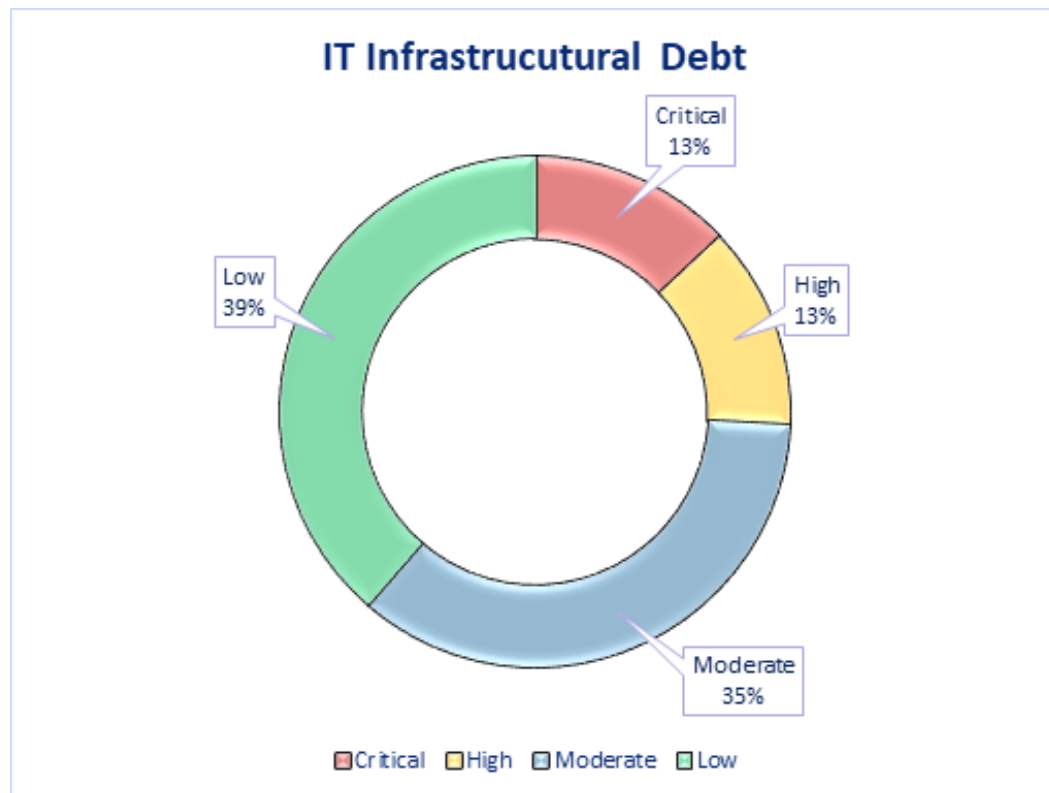
The City of Dallas has each of these types of technical debt present in its technology environment. In many instances there is a combination of multiple types of tech debt present for a given system or service operated in the City.

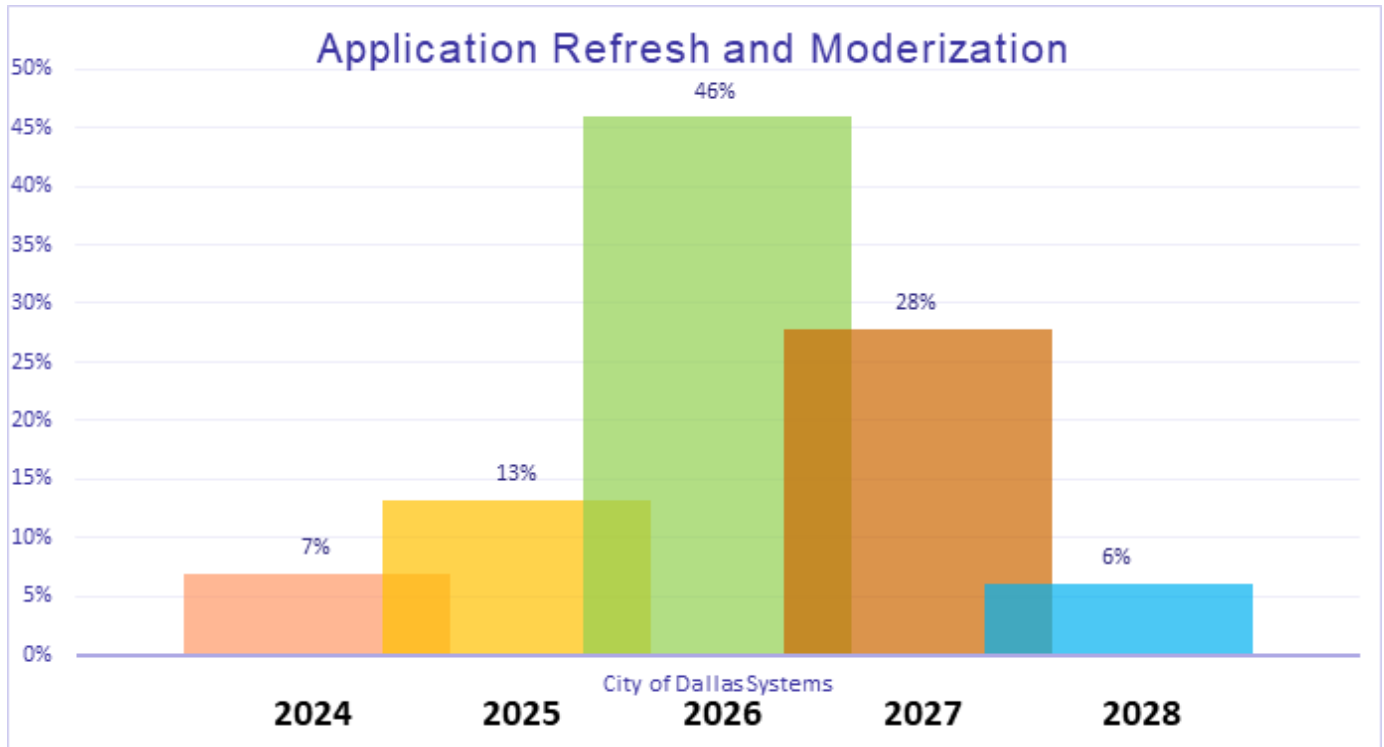
As of 3/31/23

A strategic element of the City’s IT Infrastructure improvement direction, a proactive approach is being taken that identifies, tracks, and will communicate the potential risks and costs associated with technical debt to City departments. The City’s technical debt has accumulated over time, reducing the IT effectiveness for services. Any plan must involve setting aside time and resources, specifically to address the deficit, or “pay down debt”.

ITS has commenced framing a roadmap that provides guidance to technical debt remediation by outlining a clear and comprehensive plan for addressing technical debt over time. The plan shall outline and review changes in the system landscape and the City’s strategic priorities. The plan shall track progress toward milestones and adjust the roadmap as needed to ensure that technical debt is not only reduced, but continuously managed.

The charts below represent the current assessment of ITS infrastructure systems and applications to be impacted over the next 5 years as technical debt to the City of Dallas.



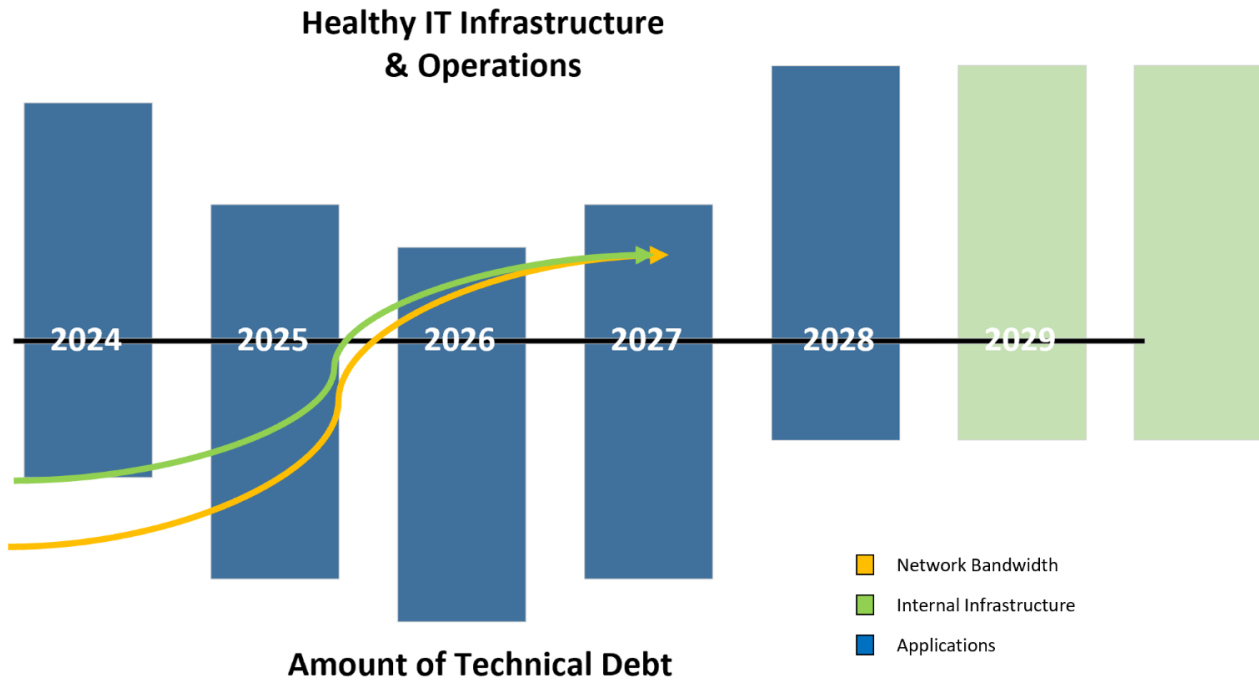


The above chart represents a high-level assessment of the relative status of the City’s 800+ systems/applications and when, based upon the age, contract status, version of software, and several other characteristics or factors those applications will require attention to avoid accumulating technical debt. In other words, the “currency” of those systems will degrade to the point that additional risk will be presented unless actions are taken to address whichever characteristic is falling out of currency. In many instances, this is as simple as a contract renewal or upgrading the version of software. In other instances, it may require a major refresh or upgrade to the application.

Note: While this chart represents percentages of the total inventory of 800+ applications in use by the City, it is purely a volume percentage and does not represent the proportion of cost, complexity, or risk present in the application portfolio.

Due to the significant cost and time needed to solve the technical debt issues in the City, as well as the need to minimize disruption to City technology services, a seven-year roadmap for technical debt has been designed that would plan for gradually reducing and eliminating the accumulated technical debt of the organization's software systems and infrastructure.

The following chart provides a high-level view of the proportion of technical debt present in an environment and how a technical debt remediation plan and ongoing monitoring can serve to reduce the amount of technical debt and maintain it at healthy level into the future.



In conducting initial assessments of the City’s application portfolio and working with Gartner Research in performing application health reviews, ITS has formulated a preliminary estimate of costs associated with remediating the current technical debt present in our environment and for maintaining applications into the future.

Preliminary Estimated Costs of Technical Debt Remediation, based upon industry standards:

	2024	2025	2026	2027	2028	2029-
Infrastructure Cost	\$12,000,000	\$7,200,000	\$26,900,000	\$14,000,000	\$11,000,000	\$9,000,000
Application Cost	\$23,115,000	\$53,000,000	\$30,000,000	\$20,000,000	\$15,000,000	\$15,000,000
Approved Projects	5	4	0	0	0	0
Allocated Budget	\$16,500,000	\$29,000,000				

As of 3/31/23

The following represents an initial, draft 7-year framework for remediating the technical debt within the City's environment associated with software applications and infrastructure. Those activities listed under the current year are underway and ongoing. ITS will continue to provide updates to the Council as the framework is built out.

Current:

- I. Identify and inventory all current technical debt into the risk management database.
- II. Identify applications and systems processes which must be modified to prevent new technical debt from occurring wherever possible.
- III. Obtain business-side leadership buy-in that certain technology projects may be elongated to ensure new technical debt is minimized.
- IV. Establish Key Performance Indicators (KPIs) and Objectives and Key Results (OKRs) for the Technical Debt Remediation Program.

Year 1:

- I. Prioritize technical debt: Prioritize technical debt items based on their severity, risk, and impact on City Services.
- II. Allocate resources: Allocate resources, including people, time, and budget, to address technical debt.
- III. Address Critical priority technical debt items: Start by addressing the highest priority technical debt items, such as critical security vulnerabilities, performance bottlenecks, and outdated technology.
- IV. Begin to upgrade infrastructure: Upgrade infrastructure, such as servers, databases, and networking, to improve performance and reliability.

Year 2:

- I. Continue addressing high-priority technical debt items: Address the remaining high-priority technical debt items that were identified in the first year.
- II. Continue to address infrastructure: Upgrade infrastructure, such as servers, databases, and networking, to improve performance and reliability.
- III. Improve documentation: Improve documentation to make it easier to maintain and update the system.

Year 3:

- I. Begin to address medium-priority technical debt items: Address medium-priority technical debt items that were identified in the first year.
- II. Implement DevOps practices: Implement DevOps practices, such as automated testing, continuous delivery, and continuous monitoring.

As of 3/31/23

- III.Enhance user experience: Address technical debt items that impact user experience, such as slow page load times, broken links, and inconsistent design.

Year 4:

- I.Continue to address medium-priority technical debt items: Address medium-priority technical debt items from year 3.
- II.Begin to address low-priority technical debt items: Address low-priority technical debt items that were identified in the first year.
- III.Upgrade third-party components: Upgrade third-party components, such as libraries, frameworks, and plugins, to stay current and continue to reduce the risk of security vulnerabilities.

Year 5:

- I.Monitor technical debt: Monitor technical debt on an ongoing basis to prevent it from accumulating again.
- II.Conduct periodic reviews: Conduct periodic reviews to ensure that the system remains free of technical debt and uses the latest technologies and best practices.
- III.Develop a long-term technical debt management plan: Develop a plan to manage technical debt over the long term, including strategies for prevention, mitigation, and monitoring.

Year 6-7:

- I.Address any new technical debt that has arisen: Continue to monitor and address new technical debt that arises.
- II.Implement automation: Implement automation for testing, deployment, and monitoring to improve efficiency and reduce errors.
- III.Continuously monitor and address technical debt: Continue to monitor technical debt on an ongoing basis and address any new issues that arise.
- IV.Improve security practices: Improve security practices and address security-related technical debt to ensure the system is secure.
- V.Plan for future system upgrades and technology changes: Plan for future upgrades and changes to ensure the system remains up-to-date and free of technical debt.

A 7-year plan provides a comprehensive approach to addressing technical debt over a longer period of time. The plan shall tailor specific needs and priorities of the City of Dallas, but a strategic direction for managing technical debt over the long term.

C. Audit

Currently the ITS department is working through several audits that impact technology services. Below representative if the Audit remediation efforts and stages.

