



Information & Communication Technology Plan

City and County of San Francisco
Fiscal Years 2023-24 through FY 2027-28

Contents

Acknowledgments..... 3

Message from the City Administrator4

Executive Summary..... 5

Introduction..... 8

San Francisco Technology Goals 9

 Goal 1: Online and Accessible City Services Residents Can Use 10

 Goal 2: Integrated City Operations that are Efficient and Cost-Effective 14

 Goal 3: IT Infrastructure You Can Trust..... 19

Financial Forecast 21

 Annual Allocation Projection..... 24

 Major IT Allocation 25

Funding Recommendations 26

Appendix A: Legislation..... 27

Appendix B: Administrative Code 22A – Information and Communication Technology 28

Appendix C: Completed IT Projects..... 30

Appendix D: Major IT Project Descriptions..... 31

Appendix E: 5-Year Project Forecast 38

Acknowledgments

Committee on Information Technology (COIT)

Carmen Chu, Linda Gerull, Sophia Kittler, Aaron Peskin, Michael Makstman, Ben Rosenfield, Carol Isen, Grant Colfax, Dennis Herrera, Michael Lambert, Mary Ellen Carroll, Ivar Satero, Trent Rhorer, Jeffrey Tumlin, Sheryl Davis, Angela Calvillo, Charles Belle

COIT Budget & Performance Subcommittee

Katharine Petrucione, Sailaja Kurella, Todd Rydstrom, Mike Cotter, Damon Daniels, Jason Blandon, Tajel Shah, Rene Leedeman, Cyd Harrell, Jillian Johnson

COIT Privacy and Surveillance Advisory Board

Mike Makstman, Guy Clarke, Mikela Clemmons, Mark de la Rosa, Jillian Johnson, Michelle Littlefield, Molly Peterson

COIT Staff

Jillian Johnson, Neil Dandavati, Danny Vang, Julia Chrusciel

City Departments

Katharine Petrucione, Rachel Cukierman, Molly Peterson, City Administrator's Office

Rebecca Villareal-Mayer, Amanda Johnson, Mori Wallner, Permit Center

Todd Rydstrom, Jack Wood, Glynis Startz, Controller's Office

Kate Howard, Dan Kaplan, Department of Human Resources

Cyd Harrell, Jane Gong, Digital Services

Michelle Littlefield, DataSF

Linda Gerull, Michael Makstman, Kamroonbanu Mohideenbasha, Brian Adam, Keith Kawas, Department of Technology

Sophia Kittler, Mayor's Office of Innovation

Reymon Lachaux, Mayor's Office of Housing and Community Development

Anna Duning, Sally Ma, Damon Daniels, Mayor's Office

Michelle Geddes, Mike Dougherty, Department of Emergency Management

Daniel Quach, Umecke Cannariato, Sarah Locker, Homelessness and Supportive Housing

Jennifer S. Hopkins, Ramsey Williams, Alan Marshall, Tricia Yang, Connie Chau, Public Utilities Commission

Message from the City Administrator

With this letter, I submit the proposed City and County of San Francisco Information and Communication Technology (ICT) Plan for FY 2023-28. The seventh iteration of the ICT plan charts a course for the City to improve the resiliency of our most critical systems while increasing efficiency and convenience of our services through responsible technology investments.

The five-year plan recommends \$228.8 million in technology investments that will help ensure City services are more accessible for our residents, businesses, and visitors, while fortifying core government operations. Since the last ICT plan, the City has focused on investing in solutions that integrate and streamline the delivery of services critical to our COVID-19 recovery. Key technology has been implemented at the City's new centralized Permit Center and investments in technology solutions for the administration of core high-impact government functions like hiring and contracting improve our Citywide service delivery. We have also moved public safety agencies off antiquated legacy mainframe technology enabling a more secure and more robust data sharing platform and we are investing in the City's computer aided dispatch system to efficiently and securely dispatch street response teams to people in need.

The last few years have made clear how important technology and access to technology is for our residents and for government operations. Technology enables us to carry out the critical work needed on behalf of residents and to communicate, coordinate and respond during emergencies. While the investments we make over the next five years will help, the demand for technology investments continues to outpace resources. We look forward to continuing to engage the Mayor and the Board of Supervisors in our collective goals to strengthen the City's core services and technology infrastructure.

Carmen Chu

City Administrator

Executive Summary

The Fiscal Year (FY) 2024-28 Information and Communication Technology (ICT) Plan represents citywide coordination to guide the strategy and investments that the City & County of San Francisco makes in technology. Over the next five years, the City must balance the need to replace legacy technologies, support critical Information Technology (IT) infrastructure, and modernize services in a cost-effective and efficient manner. This ICT Plan presents a vision for sustainable investment in San Francisco's digital infrastructure with the goal of ensuring accessible and reliable City services as the City continues to recover from the COVID-19 pandemic.

San Francisco's Guiding Technology Vision:

Government services that are available and universally accessible in times of crisis and beyond.

San Francisco Technology Goals

To sustain and improve local government services, the City must continue to leverage modern technologies with a focus on user-centered design.

Goal 1 - Online and Accessible City Services Residents Can Use

Universal accessibility of government services requires an ongoing commitment by the City to create opportunities for the public to access City services online. Redesigning City digital operations, including its website, and innovating new services with accessibility at the forefront is key to the City's modernization efforts.

Goal 2 - City Operations that are Efficient and Cost-Effective

The economic impacts of the COVID-19 pandemic and the slow pace of the City's economic recovery requires the City to do more with less. Technology solutions must improve efficiency so that the City can improve the quality of service delivery without increasing costs.

Goal 3 - IT Infrastructure You Can Trust

Much like capital projects, technology infrastructure requires continual maintenance and investment to ensure critical systems are available at all times.

Financial Forecast

From FY 2023-24 through FY 2027-28, City departments anticipate initiating 79 technology projects for a total projected cost of \$228.8 million. Projects have a projected cost over \$100,000 and include submissions from 23 the 52 City departments.

Figure 1: Five-Year Forecast of Technology Projects

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Number of Projects	83	41	12	6	5
Projected Cost	114.0	91.2	.28.0	7.2	3.5
General Fund Request	42.7	34.8	21.4	7.2	3.5

To support the upcoming technology requests, COIT recommends funding from two General Fund sources: the Major IT Project Allocation and the Annual Allocation. COIT prioritizes funding towards projects that align with City priorities and have the highest impact over the next five years.

Figure 2: COIT Allocations Five-Year Forecast

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Annual Allocation	15.8	26.2	22.7	31.2	36.3
Major IT Allocation	22.6	16.1	23.9	20.0	20.0
Total	38.4	42.3	46.6	51.2	56.3

Funding Recommendations

In order to maintain business continuity and accessible services, COIT recommends the following:

Recommendation 1 – Continue to increase COIT funding to meet the pre-COVID levels by FY 2027-2028

Demand for technology investments continue to outpace available funding levels. The need to replace legacy technologies, support critical Information Technology (IT) infrastructure, and modernize services has never been greater. Though the City’s finances are recovering slower than anticipated, the efficiency gains posed by investments in modernizing technology are crucial to the long-term financial picture. Investments in one-time technology investments should be a top priority.

Recommendation 2 – Explore new IT funding models that are more resilient to economic downturns

The competing needs of aging technologies and demand for modern services continue to be a challenge for the City. Under current trends, most if not all of the COIT allocation will be consumed by replacement of legacy systems, leaving little room for greater modernization

efforts. The City should consider new models for funding IT priorities outside of the annual COIT allocation to ensure sufficient funding to sustainably modernize City service delivery.

Introduction

San Francisco's decisive response to the onset of the COVID-19 public health crisis swiftly adapted City operations and ensured the continuity of critical services when they were most needed. Now City leaders must tackle the challenges presented in the aftermath of the COVID-19 state of emergency with equal resolve. While the pandemic has ebbed, the City's economic picture is less encouraging. The City must prioritize investments that ensure an equitable and vibrant economic recovery for residents and businesses. This includes modernizing IT infrastructure to ensure government services are accessible, efficient, and reliable for San Francisco's residents and visitors.

The Fiscal Year (FY) 2024-28 Information and Communication Technology (ICT) Plan guides the strategy and investments that the City & County of San Francisco makes in technology. Over the next five years, the City must balance the need to replace legacy technologies, support critical Information Technology (IT) infrastructure, and modernize services in a cost-effective and efficient manner. This ICT Plan presents a vision for sustainable investment in San Francisco's digital infrastructure with the goal of ensuring accessible and reliable City services as the City continues to recover from the COVID-19 pandemic.

San Francisco Technology Goals

San Francisco's post-pandemic recovery is taking place during a time of continued economic uncertainty. The City is implementing strategies to bolster a city-wide recovery that builds on San Francisco's strengths, while responding to changes in broader economic and work-place trends. The Five-Year Financial Report published by the Controller's Office details a number of priority areas for City investments, including supporting businesses through the recovery, investing in public safety, decreasing homelessness and building housing, and providing mental and behavioral health care for those in need. These priorities continue to align with the guiding vision of the prior year ICT plan, and thus the vision remains unchanged.

San Francisco's Guiding Technology Vision:

Government services that are available and universally accessible in times of crisis and beyond.

The FY 2024-28 ICT Plan reflects the importance technology plays as the City tackles challenges either pre-dating or created by the COVID-19 pandemic. In order to continue to support the resiliency of San Francisco communities, City services must be easily available, accessible, and reliable. The following strategic goals describe how the City plans to align technology investments and internal operations to achieve this vision.

Goal 1 - Online and Accessible City Services Residents Can Use

Goal 2 – Integrated City Operations that are Efficient and Cost-Effective

Goal 3 - IT Infrastructure You Can Trust

The City has a number of agencies, initiatives, and projects that are exemplary in advancing each of these goals.

Goal 1: Online and Accessible City Services Residents Can Use

Universal accessibility of government services requires an ongoing commitment by the City to create opportunities for the public to access City services online. Moreover, these services must be truly accessible, both for those with disabilities, and for those who have historically experienced limited access to digital technology.

Redesigning City digital operations, including its website, and innovating new services with accessibility at the forefront is key to the City's modernization efforts.

Over the next five years, departments have proposed 15 technology projects in support of technologies that improve the service experience. The combined projected cost for all projects is \$9.7 million.

The following agencies are leading the way to achieve universally accessible online services.

Digital and Data Services

When a San Franciscan needs something, from housing assistance to a swimming lesson, they should be able to access it from the device of their choice in the language they speak. When the City asks something of the public, from filing a permit to paying taxes, it should be as easy as possible. Digital technology and data are important tools in the City's toolbox for making this real.

The mission of the Digital & Data Services Office is to make the City more capable of delivering great, accessible services to all residents. The 2020s have brought a recognition that this requires digital infrastructure on top of underlying IT infrastructure. The primary responsibility of the Chief Digital Services Officer is to build the infrastructure, tools, and practices needed for a connected, accessible, responsive city.

Over the next five years, the Digital & Data Services team will continue to build a set of flexible citywide platforms, and to help departments build excellent services on them. These platforms include SF.gov with its accessible design system, form builder, API components and data pipelines and the citywide Open Data Portal. Every resident, visitor, and business should feel confident that whenever they need something from the City, they can get it quickly and easily, and every City employee should feel pride in their work and empowered.

Digital Accessibility and Inclusion Standard

Together with COIT, Digital & Data Services is also leading the implementation of the City's Digital Accessibility and Inclusion Standard (DAIS) by May 2024. After moving 80 smaller City departments to the accessible citywide SF.gov web platform in 2022, Digital Services is now supporting larger departments to move their more complex and essential services to this modern web infrastructure. Digital Services rebuilds each service in stable, repeatable fashion so that similar services can re-use the same components and accelerate delivery. They also build in human translation for San Francisco's threshold languages, and their Content group supports

Departments in writing information and forms at a 5th-grade reading level for maximum accessibility to all.

Permit Center

A well-functioning permitting process is crucial to the City's economic recovery. Streamlined permitting processes allow businesses to open and operate more efficiently, and help the City to attract investment in critical City infrastructure including housing. The City continues to make permitting faster, easier, and more accessible for businesses and residents.

The City's Permit Center has transformed delivery of in-person services by interweaving digital experiences with exceptional customer service. In 2022, over 52,000 customers received 147,000 in-person services. Each interaction created a data point, which when aggregated, provides a deeper understanding of both accomplishments and areas for improvement.

Several technology products have been instrumental in collecting data and driving the transformative work of the Permit Center:

Digital Queuing: The Permit Center uses a state-of-the-art queueing system with artificial intelligence features, which gathers information about both customer behavior and staff service. Using this data, staff are creating performance measures for in-person service and setting realistic expectations for customers about their time spent in the Permit Center.

Customer Support: The permit ecosystem is decentralized, complex, and confusing for customers to navigate. Obtaining a single permit involves interactions with multiple permitting departments and divisions. To add to the confusion, each department has its own customer service policies, procedures, staff, and standards. A single project could have a dozen different customer service pathways, depending on its size and scope.

To make the customer experience easier to navigate, the Permit Center is centralizing general permit inquiries into Zendesk. With this tool, staff can collect better data about the types of questions and problems customers have; provide faster and more consistent responses; and create performance measures for customer service. Permit Center staff can also use Zendesk data to identify recurring customer issues and address the root causes.

Centralized Cashiering: Self-service payment kiosks allow customers to make in-person payments quickly and easily by cash, check, or credit card. Kiosk payments do not incur credit card transaction fees. With the kiosks, the payment experience is secure and consistent across permitting departments. Furthermore, the automated reconciliation process will facilitate departments' revenue accounting. These improvements will also enhance data collection and transaction volume tracking.

Looking ahead toward future improvements to the in-person experience, the Permit Center plans to implement an Appointment System to complement the drop-in queueing process. The

appointment system will need to integrate with department permitting systems and staffing models. By offering both drop-in and appointment services, the City can increase the predictability and efficiency of permit processing for customers and employees.

Beyond improvements to the in-person experience, the Permit Center is shifting its strategic focus to improving the digital permitting experience, both for customers and for City staff.

Data Unification: As permitting agencies prepare to replace their systems of record, the Permit Center will continue sponsoring cross-departmental initiatives to improve data quality, accessibility, and transparency. These data improvements will enable the permitting departments to set performance targets, analyze and report performance results, and identify and mitigate processing bottlenecks.

Digital Permits: Today, most applicants initiate a permit or license via a paper form or a fillable PDF. Work is underway in multiple departments to transform the permitting process into an end-to-end digital experience for customers and staff. A fully digital experience will make permit processing faster and more predictable for customers, and more efficient for staff.

Enhanced Electronic Plan Review: The Permit Center will build on the success of the initial electronic plan review (EPR) program with enhancements including expanding to new permit types, adding workflow automation, and increasing accessibility for Mac users.

Mayor's Office of Innovation

The Mayor's Office of Innovation, formerly known as the Office of Civic Innovation, works across departments and sectors to improve service delivery for San Francisco residents. Emphasizing human-centered design and data analysis, the Office of Innovation works to build a city-wide culture of evidence-based and creative problem solving.

The Innovation Team (i-team) combines data expertise, service design, and project management to research, design, and test new tools for strategic and tactical policy challenges.

Civic Bridge is a program that connects City Departments with pro bono private industry teams to solve civic challenges.

Over the next five years, the Office of Innovation will help create new public-private partnership models in the City, introduce new skills and tools that increase the responsiveness of government, and pilot new technologies citywide.

Digital Equity

San Francisco is committed to building a supportive and inclusive digital society. As more City services become digital, the City is responsible for ensuring all residents have access to all services. All residents should have full and equitable access to digital technology and its benefits so all communities can thrive, regardless of demographic.

Through the Public Library, the SFConnected program, TechSF, and trusted community-based organizations (CBOs), the City is training and exposing thousands of residents to digital tools. In particular, San Francisco's efforts target:

- Low-income Households
- People with disabilities
- Residents with limited English proficiency
- Older Adults
- Individuals re-entering society from the justice system

Connecting residents to the Internet also increases their exposure to new risks of their private and sensitive information falling into the wrong hands. In response, San Francisco is developing more robust messaging and information-sharing about tools, resources, and methods the public can use to prevent and combat potential cyber threats. The City's Digital Equity program, in partnership with the Department of Technology's cybersecurity team, has created digital literacy and security training to help our most vulnerable residents.

Goal 2: Integrated City Operations that are Efficient and Cost-Effective

The slow pace of the City's economic recovery from the pandemic requires the City to do more with less. Technology solutions must continue to increase efficiency so that the City can improve the quality of service delivery without increasing costs.

Over the next five years, departments have proposed 49 technology projects to improve operational efficiencies. The combined projected cost for all projects is approximately \$173.1 million.

The following efforts are leading the way to achieve this goal.

Homelessness and Behavioral Health

Addressing the homelessness and behavioral health crisis remains one of San Francisco's biggest priorities as the City seeks to stimulate an equitable economic recovery. The COVID-19 pandemic exacerbated the challenges faced by people experiencing homelessness in the City. However, the coordinated work of several departments, including the Homelessness and Supportive Housing Department (HSH), San Francisco Department of Public Health (SFDPH), the San Francisco Fire Department (SFFD) and the Department of Emergency Management (DEM) had a significant impact on the severity of the crisis. Between the 2019 and 2022 Point-in-Time Counts, HSH reported helping more people than ever before in a three-year window, with over 8,000 households exiting homelessness from January 2019 to January 2022. The 2022 Point-in-Time Count saw a 15% reduction in unsheltered homelessness and 3.5% reduction in overall homelessness between 2019 and 2022. Critical to this success and the work of these departments is their collaborative street outreach teams.

Over the past two years, the City has launched several new street response teams that work with paramedics, clinicians, and people with lived experience to address behavioral health, overdoses, or other urgent needs of primarily unsheltered individuals in San Francisco. These teams engage the most vulnerable individuals living outside and introduce them to the resources needed to resolve their shelter, housing, and behavioral health crises. Street response teams are dispatched through 911 and provide an alternative to police response. To further bolster the work of these teams the City is making several key technology investments.

Computer Aided Dispatch & Mobile Support

The City is replacing DEM's Computer-Aided Dispatch (CAD) system, a core application for receiving, categorizing, and dispatching emergency 911 calls to public safety and health agencies, as well as increasingly dispatching calls to street response teams. The new CAD system is expected to improve dispatch center call taking and dispatch operations, including dispatch operations for Street Crisis Response Teams (SCRT) and other street response teams.

Additionally, DEM plans to pilot a mobile application that connects outreach workers, and other designated city and community teams in real time for the purpose of providing holistic care to people in crises. This tool will strengthen communication and connections between street

response teams in the field and expedite information sharing needed to reduce duplication of and increase efficiency of services when multiple teams interact with the same clients in the street.

Gov Ops

In April 2022, the City Administrator's Office, Controller's Office, and Department of Human Resources (DHR) came together to launch the Government Operations Recovery Initiative (Gov Ops), a special initiative aimed at addressing staff shortages, contracting backlogs, and financial operations challenges that make it difficult for the City to operate effectively and efficiently. This work includes proposing legislative and business process changes, with a focus on developing and improving key City systems, such as PeopleSoft and ServiceNow. In FY 2022-23, the City allocated \$4.1 million to the Gov Ops initiative to hire program staff and create a menu of options to support improved City operations.

Since April 2022, the three departments have filled Gov Ops positions, created frameworks for project and change management, and begun to improve and streamline the policies and business processes they oversee:

- Led by DHR, the Gov Ops Human Resources team has implemented important improvements to hiring and human resources processes to address staffing shortages, improve the City's ability to compete for talent, and reduce time-to-hire. This work includes revising the Civil Service exam strategy to more quickly and efficiently fill hard-to-fill classes, address high vacancy rates, and handle large applicant pools. A key first step is the adoption of online, on-demand exams through integrating testing vendors with SmartRecruiters. To support this work, DHR has established an embedded engineering team that provides the department with a unique capability to act quickly, prototype, and implement technical changes. In addition, DHR has provided hundreds of employees with the opportunity to convert from exempt to permanent through a central process, saving City HR staff unnecessary work. Finally, the team has begun streamlining the candidate vetting process—such as by reducing processing and exploring the use of vendors—and has proposed common-sense Civil Service rule changes to clean up administrative requirements.
- Led by the City Administrator's Office and the Office of Contract Administration, the Gov Ops Contracting team has implemented key reforms to streamline contracting, make it easier to do business with the City, and reduce time-to-procure. This includes launching a pilot program in ServiceNow to streamline and expedite the Chapter 21 contract review and approval process and working closely with the Controller's Office to implement a new Local Business Enterprise (LBE) certification database in the city's core financial and procurement system.

- Led by the Controller's Office, the Gov Ops Financial Operations team has implemented necessary changes to reduce the staff time and administrative burden needed to execute key financial tasks. This includes revising the employee reimbursement process to quicken reimbursement approval and improving budget control practices related to leases, equipment, and carryforward/surplus transfers to allow departments to meet new and changing priorities. In addition, the team is focused on convening City stakeholders to develop a single set of policies and practices for interdepartmental service agreements, which currently cause significant operational challenges citywide.

Justice Tracking Information System (JUSTIS)

All residents and visitors should feel safe and welcome in San Francisco, making public safety crucial to the City's economic recovery. Additionally, San Francisco seeks to promote accountability and transparency throughout the public safety and judicial system. The City is committed to the equitable treatment of all parties within the criminal justice system.

San Francisco's Justice Tracking Information System (JUSTIS) project supports both of these objectives. JUSTIS enables data sharing between public safety agencies and robust reporting on the local criminal justice system. It supports data-driven insights into criminal justice objectives and outcomes, a vital component of advancing public safety goals. The following agencies participate in JUSTIS:

- Adult Probation
- City Administrator
- Department of Technology
- District Attorney
- Emergency Management
- Juvenile Probation
- Mayor's Office
- Police Department
- Public Defender
- Sheriff
- Status of Women
- Superior Court

Modern Case Management System

San Francisco, has reached a significant milestone in the JUSTIS project, launching a new modernized court case management system (CMS) and data management tool that will transform and streamline case management and improve access and services to judicial partners

and the community at-large. The effort to launch the new JUSTIS Hub represents two years of work by the Superior Court, public safety agency partners, and the Department of Technology.

The new systems enable greater public access to information with online court calendars and justice dashboards and also streamline case management, providing judges, attorneys, and public safety officers greater access to information. The new systems provide information to support data-driven decisions and expand the City's ability to analyze trends and public safety program outcomes. The successful deployment of the Superior Court's C-Track system and the JUSTIS Hub is a milestone in good government and cross agency collaboration that delivers efficiency.

The next phase of the project, the JUSTIS Data Center of Excellence, will provide a data sharing and analysis platform for the courts and public safety agencies. This phase includes creation of data governance, design query, reporting and visualization tools, development support of department dashboards and assess effectiveness of data for decision making.

Enterprise Technologies

City enterprise technologies support efficient government operations and reduce operational costs. Benefits include:

- **Automation:** Technology can be used to automate tasks and processes, reducing the need for manual labor and lowering labor costs
- **Streamlined processes:** Technology can be used to streamline processes, reducing the time and resources needed to complete them and lowering operating costs
- **Paperless systems:** Implementing paperless systems can help reduce the cost of printing, storing, and distributing paper documents
- **Improved efficiency:** Technology can automate tasks and processes, reducing the time and resources needed to complete them. This can help local governments operate more efficiently and effectively.
- **Improved service delivery:** Technology can help local governments deliver services more efficiently and effectively. For example, online services can make it easier for residents to access information or to request services
- **Data analysis:** Using data analysis tools can help organizations make more informed decisions, leading to cost savings in the long term
- **Enhanced decision-making:** Technology can provide local governments with access to data and analytics that can help them make more informed decisions

Enterprise technologies include software and hardware solutions designed to meet the specific needs of city business services and programs. Business application technologies include

enterprise resource planning (ERP) systems, customer relationship management (CRM) systems, asset and service management (ITSM) systems and other business intelligence and data management tools. Hardware solutions include software defined networks (SDN) and cloud computing.

The City is working to migrate business systems to cloud technologies for the following reasons:

- **Cost savings:** Cloud services are typically offered on a pay-as-you-go basis, which can help businesses save on upfront costs associated with maintaining and upgrading their own IT infrastructure
- **Scalability:** Cloud services can easily be scaled up or down to meet changing business needs, which can help businesses save on resources and costs
- **Flexibility:** Cloud services can be accessed from anywhere with an internet connection, which can enable remote work and collaboration for employees
- **Reliability:** Cloud service providers typically have teams dedicated to maintaining and updating their infrastructure, which can lead to increased reliability and uptime
- **Security:** Cloud service providers typically have a wide array of security measures in place to protect customer data, which can help businesses mitigate risks associated with data breaches and other security incidents

The Department of Technology offers a choice of commercial cloud platforms that are accessed with high speed communications. Additionally, city departments are actively implementing Software-as-a-Service (SaaS) applications which reduce maintenance cost, speed deployment and are accessible with any internet connection.

As enterprise systems continue to evolve, low level business processes can be automated with Artificial Intelligence (AI), software and/or hardware that supports machine learning, computer vision, natural language processing and robotics. City departments are implementing Robotic Process Automation (RPA) technologies to fully automate simple business processes. RPA will improve efficiency and accuracy by automating repetitive, manual tasks and freeing up employees to focus on more strategic and value-adding activities. RPA can also help reduce costs, improve compliance, and increase scalability. Additionally, RPA will provide the City with real-time data and insights, which can help inform decision-making and improve overall performance.

Goal 3: IT Infrastructure You Can Trust

City operations rely on technology infrastructure. Much like capital projects, technology infrastructure requires continual maintenance and investment to ensure availability of critical systems at all times.

Over the next five years, departments have proposed 18 technology projects to support technology infrastructure. The combined projected cost for all infrastructure projects is projected to be \$61.2 million over the next five years.

The Department of Technology is supporting this goal through the following activities.

Resiliency & Disaster Preparedness

As seen recently with COVID, power outages, winter storms, and cyber-attacks, disasters can significantly affect both critical service delivery and internal City operations, City departments must prepare for disasters, strengthen resilience of technology and ensure continuity of operations by:

- Building the capacity to restore IT systems that support key City services swiftly.
- Having clear response and recovery plans to improve response and recovery times.
- Exercising Response and Resilience plans regularly for effectiveness and to address any gaps in advance.

The Department of Technology is taking steps to secure City infrastructure by establishing strong policies and practices while integrating superior cybersecurity tools. Protecting City systems and data from outside intrusion or disruption is the mission of the City's Office of Cybersecurity within the Department of Technology. As part of a Technology Resilience Program, the Office of Cybersecurity is spearheading the following initiatives:

Technology Resilience Standard. For proper adoption of the COIT DPR3 policy, draft, publish and assist with implementation of a Technology Resilience Standard which will outline specific resilience requirements, including timelines for resilience analysis and resilience implementation.

IT Risk and Resilience Application. Develop a Citywide IT risk and resilience application to assist the city departments with IT risk analysis, business impact analysis, and resilience planning, and implementation monitoring.

Resilient City Core Infrastructure and Tier 1/2 Applications. Strengthen resiliency of City data centers, network, and communication technology. Work with City Departments to identify Tier 1 and 2 Applications/Infrastructure, document Risk and Business Impact Analysis, and implement resilience strategies to prepare for a technology disruption event.

Over the next five years, the Office of Cybersecurity will continue implementing these initiatives. Staff will roll out the IT Risk and Resilience Application to all City Departments, and initiate the

annual assessment program Citywide to help identify technology risks and document remediation plans. Staff will also certify the City datacenter to a high industry resilience standard and test the resiliency of City network and communication systems. Finally, staff will work with departments to prepare resilience implementation plans and implement resilient applications.

Financial Forecast

The following section previews the City’s upcoming financial picture and describes the framework for future funding decisions.

Technology Project Forecast

From FY 2023-24 through FY 2027-28, City departments anticipate initiating 79 projects for a total of projected cost of \$228.8 million. Projects are reflective of submissions from 23 of the 52 City departments, with a projected cost over \$100,000.

Figure 3: Five-Year Forecast of Technology Projects

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Number of Projects	83	41	12	6	5
Projected Cost	114.0	91.2	28.0	7.2	3.5

Note: Cost figures are in \$ millions.

Upcoming technology projects address a variety of business needs throughout the City. Below is a table detailing the number of technology projects in each primary theme.

Figure 4: Forecast of Technology Projects by Theme

	Number of Projects	5-Year Projected Cost
Business Specific	19	15.1
Customer & Case Management	18	24.6
Digitization & Document/Records Management	7	10.2
Infrastructure: Network & Data Centers	9	6.2
Major IT Project	5	163.3
Residential Digital Services	6	3.7
Resource Management	4	4.8
Risk Management: Cybersecurity & Business Continuity	10	6.9
Staff Collaborative Tools: Data Analysis/Data Sharing	5	9.1

Note: Cost figures are in \$ millions.

A full list of projects is available in Appendix E.

Funding Structure

Within the City and County of San Francisco, the funding required to support and maintain existing technologies is separated from investments in new technologies. Overall, the vast majority of the City's technology budget funds ongoing support of operations and services. However, a growing portion goes towards new projects.

Every new technology project with a projected cost over \$100,000 must undergo centralized review and approval by COIT, which then provides funding recommendations to the Mayor and the Board of Supervisors for consideration in the final budget. Funding for all technology projects come from the following sources:

[COIT's Annual Projects Allocation](#) is a portion of the General Fund dedicated to a range of technology projects throughout the City. Structured as a pay-as-you-go fund, General Fund departments may request funding to supplement their annual operating budgets.

[COIT's Major IT Projects Allocation](#) was created in FY 2014-15 by the Mayor and the Board of Supervisors to support technology projects that impact multiple departments.

[Department Operational Budgets](#) support all projects less than \$100,000 and the continued licensing and maintenance cost for other technologies. The vast majority of the City's spending on technology is in operational budgets.

[The Department of Technology's Rate Model](#) supports the implementation of a number of Citywide ICT projects through the use of chargeback rates.

[Non-General Fund Sources](#) are a critical source of support for technology projects throughout the City. Technology projects from the City's Enterprise Departments (San Francisco International Airport, Municipal Transportation Administration, the Port, and Public Utilities Commission) are wholly support by non-general fund sources. In addition, grants from Federal, State, and private sources are critical sources of funding for departments throughout the City.

Evaluation Criteria for Technology Proposals

The COIT budget process is designed to support City priorities and to promote coordination and collaboration between departments. Projects requesting support from COIT's General Fund allocation receive an additional level of review to ensure City investments are impactful.

COIT staff evaluate every technology project based on a set of standard scoring criteria to help identify investment priorities. The criteria help to analyze a variety of projects with diverse business purposes and contexts.

The scoring criteria includes the following measures:

Problem Definition: Understanding the needs of residents should be well defined and thoroughly researched. User research with vulnerable members of the community should define why a technology investment is needed.

Strategic Alignment & Benefits: Preference is given to projects that support Mayoral priorities and citywide challenges. Projects should clearly be able to define benefits with specific quantitative measures.

Development Plan & Change Management: Departments should have a comprehensive plan to implement the technology and redesign existing operations. Special consideration should be evident on how users and staff will transition to a new way of doing business.

Architecture Review: Technologies should support citywide cybersecurity and disaster preparedness standards and align with existing citywide investments. The City prefers technologies that are configurable off-the-shelf products with open application programming interface (API) standards.

Department Capacity: With so many projects and ongoing activities in each department, consideration is given to the department's capacity to adequately deliver a new technology. Priority is given towards departments who have prioritized staff resources and have clear change management strategy in place.

All information on the COIT budget process is made available through monthly meetings at the Budget & Performance Subcommittee, and through the COIT website at <https://sf.gov/COIT>.

Annual Allocation Projection

Through the Annual Project Allocation, COIT makes funding recommendations towards ICT projects that range from citywide projects to department specific. The Annual Project Allocation is structured as a pay-as-you-go fund and intended to support new technology projects.

The Annual Allocation is projected to grow by \$10 million over last year's projection in FY 2023-24, totaling \$15.8 million, and then by 10% each year thereafter. However, the request for Annual Allocation funding total \$42.2 million across 54 projects, leaving an overall projected shortfall of \$26.4 million in FY2023-24.

Figure 5: Forecast of Annual Project Allocation

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Number of General Fund Requests	51	28	6	4	4
General Fund Request Amount	25.0	13.5	3.0	2.5	2.5
Annual Allocation	15.8	26.2	22.7	31.2	36.3
Difference	(9.2)	(12.7)	19.7	28.7	33.8

Note: All figures are in \$ millions.

Major IT Allocation

The Major IT Allocation is a dedicated funding source to large technology projects that impact multiple departments. These projects typically last multiple years and require intensive coordination to successfully develop and deploy. The replacement of the City’s financial system is an example of a major IT project.

The addition of the Major IT Projects Allocation in FY 2014-15 has significantly increased COIT’s ability to make funding recommendations. However, over the next five years, active Major IT Projects are almost fully covered by the expected Major IT allocation, except for a deficit in FY 2024-25. This will allow for the City to redirect funds to the deficit projected by the Annual Allocation and/or support additional Major IT projects in the out years.

Figure 6: General Fund Requests on the Major IT Allocation

Major IT Projects	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Computer Aided Dispatch Replacement	11.3	14.2	12.1	3.0	-
City Telecom Modernization	1.4	3.2	2.5	1.7	1.0
Public Safety Radio Replacement Project	3.9	3.9	3.9	-	-
Property Assessment & Tax System	1.2	-	-	-	-
United Electronic Health Records (EHR) System	-	-	-	-	-
Projected Major IT Allocation	22.6	16.1	23.9	20.0	20.0
Difference	4.8	(5.2)	5.4	15.3	19.0

Note: All figures are in \$ millions.

Read the details on the City’s Major IT Projects in Appendix D.

Funding Recommendations

San Francisco is proud to be a global leader in the delivery of government services and is eager to incorporate the next generation of technologies. As the City works together to tackle the challenges induced and exacerbated by the COVID-19 pandemic, technology will play a pivotal role in helping to make the City resilient, and ensure a vibrant, equitable recovery.

To address current and future needs, COIT recommends the following:

Recommendation 1 – Continue to increase COIT allocation levels to meet the pre-COVID levels by FY 2027-2028

Demand for technology investments continue to outpace available funding levels. The need to replace legacy technologies, support critical Information Technology (IT) infrastructure, and modernize services has never been greater. Though the City's finances are recovering slower than anticipated, the efficiency gains posed by investments in modernizing technology are crucial to the long-term financial picture. Investments in one-time technology investments should be a top priority.

Recommendation 2 – Consider new funding models that are resilient to economic downturns

The competing needs of aging technologies and demand for modern services continues to be a challenge for the City. Under current trends, most if not all of the COIT allocation will be consumed by replacement of legacy systems, leaving little room for greater modernization efforts. The City should consider new models for funding IT priorities outside of the annual COIT allocation to ensure sufficient funding to sustainably modernize City service delivery.

Appendix A: Legislation

[Five-Year Information and Communication Technology Plan – FY 2023-2024 through 2027-2028]

Resolution adopting the City's Five-Year Information and Communication Technology Plan for FYs 2023-2024 through 2027-28 pursuant to San Francisco Administrative Code Section 22A.6.

WHEREAS, San Francisco Administrative Code Section 22A.6 requires the Committee on Information and Communication Technology (COIT) to submit and the Mayor and the Board of Supervisors to review, amend and adopt in odd-numbered years a five-year ICT plan; and

WHEREAS, COIT reviewed and unanimously approved the City's fifth five-year ICT plan at its meeting held on February 16, 2023; and

WHEREAS, COIT-approved ICT plan outlines guiding priorities the City will focus on in the next five years, outlines a financial strategy to fund these technology needs and lists the currently planned technology projects for each department over the next five years; and

WHEREAS, The plan details three strategic IT goals in order to align available resources and the identified department and citywide IT project requests over the next five years; now therefore be it

RESOLVED, That the Board of Supervisors adopts COIT's proposed information and communication technology plan, with such amendments and revisions as the Board deems appropriate, as the City's five-year ICT plan for Fiscal Years 2023-2024 through 2027-28, as provided in San Francisco Administrative Code Section 22A.6.

Appendix B: Administrative Code 22A – Information and Communication Technology

SEC. 22A.3. COMMITTEE ON INFORMATION TECHNOLOGY.

Establishment and Composition. There is hereby created a Committee on Information Technology (COIT).

(a) COIT shall be composed of eight permanent members consisting of the Mayor, the President of the Board of Supervisors, the Controller, the City Administrator, the Clerk of the Board of Supervisors, the Executive Director of the Human Rights Commission, the Chief Information Officer (CIO 1 and the Chief Information Security Officer (CISO), or their designees. The City Administrator or the City Administrator's designee shall serve as Chair. Five additional Department Heads shall be recommended by the Chair and approved by the permanent members for two-year terms, one representing each of the major service areas: (a) Public Protection, (b) Human Welfare and Neighborhood Development, (c) Community Health, (d) Culture and Recreation, and (e) General Administration and Finance; and three additional non-permanent members representing the major service area of Public Works, Transportation, and Commerce. The eight permanent members and eight non-permanent members shall be voting members of COIT.

(b) COIT shall organize into subcommittees. The Chair shall appoint subcommittee members based on participants' technical, financial, management, and policy-making capabilities and responsibilities. The Chair shall consult with and consider the recommendations of the CIO regarding the number, type and make-up of subcommittees, Subcommittee members shall represent major service areas of the City.

(c) Purpose and Duties. COIT shall review and approve the recommendations of the City CIO for (i) the five-year City ICT plan, including budget, projects and staffing for all City departments, boards, commissions and agencies (City Departments), (ii) ICT plans, budgets, projects and staffing plans for City Departments; and (iii) ICT standards, policies and procedures to enable successful development, operation, maintenance, and support of the City's ICT.

(d) COIT shall monitor compliance of all City Departments with adopted ICT plans, budgets, projects, standards, policies and procedures.

(e) COIT shall ensure the most cost-effective and useful retrieval and exchange of information both within and among City Departments and from the City to the people of San Francisco.

(f) There will be two additional non voting members of COIT selected by the voting members of COIT. These individuals cannot be employees of the City and County of San Francisco and shall have expertise in fields of ICT innovation and advances, emerging ICT applications, and public policy issues related to ICT.

(g) COIT shall incorporate performance and financial reporting on the Department of Technology and all other City Departments' ICT planning and purchases in the ICT Capital and Operating Plan and the annual reviews of the plan. The factors to be evaluated in determining the performance of all departments shall include, but are not limited to: quality of service level agreements, adherence to budgeted costs, and cost recovery methodology for all ICT products and services provided by City Departments, including the Department of Technology.

(h) COIT shall work to ensure adequate City ICT workforce development, including training and certification in order to maintain the competitiveness of City ICT staff.

(i) COIT will review and approve procedures, developed by the Office of Contract Administration and the Department of Technology, for the development and administration of ICT enterprise agreements. The factors addressed by the procedures will include, but not be limited to; (1) Whether the purchase is consistent with the City's current ICT Capital and Operating Plan; (2) Whether the purchase is the most economical method of obtaining the highest-quality products and services; (3) The best interests of the City.

(j) The Department of Technology shall provide support to the COIT. COIT shall review and approve the Department's annual plan, budget, and staffing required to support the Committee.

(k) When a City Department submits to COIT a Surveillance Impact Report under subsection 19B.2(b)(1) of Chapter 19B of the Administrative Code, COIT shall develop a Surveillance Technology Policy for the Department. For purposes of this subsection (k), "City Department," "Surveillance Technology Policy," and "Surveillance Impact Report" shall have the meanings set forth in Section 19B.1 of Chapter 19B of the Administrative Code.

SEC. 22A.6. INFORMATION AND COMMUNICATION TECHNOLOGY OPERATING PLAN.

(1) By March 1 of each odd-numbered year, COIT shall submit to the Mayor and Board of Supervisors a five-year Information and Communication Technology ("ICT") plan which shall include an assessment of the City's enterprise and general fund ICT capital and operating infrastructure, hardware and software needs, an estimate of timelines and investments required to meet the needs identified through this assessment, and recommendations to budget for or otherwise finance the investments.

(2) By May 1 of each odd-numbered year, the Mayor and Board of Supervisors shall review, update, amend, and adopt by resolution the five-year information technology plan and its corresponding budget request. The Mayor and Board of Supervisors may update the plan as necessary and appropriate to reflect the City's priorities, resources, and requirements as reviewed and approved by the COIT.

Appendix C: Completed IT Projects

Department	Project Title	Project Objective	Project Status	Fiscal Year Completed
Controller Systems Division	SF Budget, Performance Measurement, Projections & Reporting Project (Enterprise Planning)	<p>The objective of the Budget System & Performance Measurement Replacement Project is to replace the City's current budget systems. The current system is at the end of useful life with no continuous product support from vendor, which put both systems at risk due to lack of compatibility to the 1) ever changing world of technology, and 2) required security patches to correct systems' vulnerability to hacking or viral infection.</p> <p>Both systems are critical to prepare City's biennial budget every year to produce Budget and Appropriation Ordinance, and Salary Ordinance. Any system dysfunction could cause delay in the budget procedure to meet Budget Timetable adopted in Charter Section 3.3.</p>	Complete	FY2021-22
Economic & Workforce Development	WorkforceLinkSF (San Francisco Jobs Portal)	WorkforceLinkSF will provide job seekers with a technological platform designed to help job seekers and workforce development providers navigate the various Workforce Development related programs that multiple City Departments provide by providing a "one-stop" destination on all City Workforce Development services.	Complete	FY2022-23
Police Accountability	Data Dashboards for website	Deidentification work. Potential incorporation of legacy information with Salesforce information. Development of a dashboard for SB1421 productions.	Complete	FY2021-22
Technology	Mainframe Decommission	Retire the use of decades-old computing hardware and software by completing the migration of computers programs and data to superior platforms. This will allow the retirement of the mainframe computers at two CCSF data centers and save substantial cost.	Complete	FY2022-23
Technology	Network Maintenance	The existing City network equipment is under capacity, obsolete, and in some cases unsupported, and is not "right sized" to handle the current and future needs of the City for data, video, and voice. In addition, nearly every department being brought onto VoIP lacks capable network switches which support VoIP which is needed to modernize the City phone system.	Complete	FY2022-23
Treasurer-Tax Collector	Business Tax Propositions	Immediate implementation of new tax measures passed the the voters in Nov. 2019.	Complete	FY2022-23

Appendix D: Major IT Project Descriptions

- Computer Aided Dispatch (CAD) Replacement – Department of Emergency Management
- Radio Replacement Project – Department of Emergency Management
- Replacement of the City's Property Assessment and Tax System – Treasurer Tax Collector
- Telecom Modernization – Department of Technology
- United Electronic Health Records (EHR) System – Department of Public Health

Computer Aided Dispatch Replacement

Project Summary: To plan for, to develop the budget and scope of work for, and to replace the City's Computer Aided Dispatch (CAD) System, including mobile CAD units for the City's first responders and SFMTA parking enforcement.

The CAD system is the City's core application for receiving, categorizing, and dispatching SFFD, SFPD, SFSO, Emergency Medical 9-1-1 calls, Community Paramedicine calls, and the emerging practice of initiatives such as the Street Crisis Response Team (SCRT) calls. The City's CAD system is the emergency response system of record for the City's first responders, government, and all citizens, including the homeless.

The CAD system interfaces to over 25 other public safety and/or City enterprise systems, including the City's 311 system and the State of California's Department of Justice Criminal Justice Information System. The CAD system is also leveraged by the SFMTA for parking enforcement dispatch.

The CAD Replacement Project has been divided into five phases: (i) System Evaluation & Needs Analysis; (ii) System Design; (iii) RFP; (iv) Procurement & Negotiations; and (v) Implementation. Phases One through Three are complete. The Project has issued a Notice of Intent to Award to Motorola Solutions and is in the early stage of Phase 4. The Project's goal is to complete negotiations by June 30th.

This major IT initiative includes: the CAD network, CAD system and CAD Disaster Recovery replacement; CAD mobile software and hardware replacement for SFFD, SFPD, SFSO, and SFMTA; numerous system interfaces; system integration; and data conversion.

Outcomes Achieved:

- Vendor interviews and market survey to enhance City's future RFP process and ensure alignment with state-of-the-art CAD technologies.
- Consultant Subject Matter Expert (SME) hired to evaluate City's CAD dispatch technologies and operations to make recommendations for improvements based on industry best practices and national standards.
- RFP, Vendor Evaluations, and Intent to Award according to City Policies and Industry Best Practices

Anticipated Outcomes:

- A modern CAD system capable of integration with public safety, Next Generation 9-1-1 & i3 national standards.
- A long-term maintenance agreement that will allow the City to maintain a high level of system reliability and remain technology current for approximately 10 years after implementation.

- Improved dispatch center call taking and dispatch operations, including dispatch operations for new City Initiatives such as the Street Crisis Response Teams (SCRT).
- Improved situational awareness for dispatchers, field personnel, and DEM.
- Improved 9-1-1 call center data, analytics and management reporting for the City's approximately 1.3 million calls received by the dispatch center

Upcoming 5-Year Project Budget:

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Projected Cost	11.3	14.2	12.1	3.0	-

Note: All figures are in \$ millions.

Radio Replacement Project

Project Summary: This project has upgraded the Citywide 800 MHz Emergency Radio Communications System used throughout San Francisco by the City’s public safety and public service agencies. The City migrated from several disparate radio systems, that were all at the end of their service life. The project combined all City Departments and outside agencies onto one shared, resilient network, with more capacity and better coverage throughout the City. The system supports over 10,000 mobile and handheld radios, with over 20 City departments and outside agencies operating daily on the system. The project is approximately 90% complete, but the City will continue making finance and associated payments until FY 2025-26.

Outcomes:

- Improved system redundancy and consolidation of multiple radio networks onto one common platform.
- A new system with a long-term maintenance agreement will allow the City to maintain a high level of system reliability until 2031.
- Better coverage throughout the City, including the Bayview/Hunters Point area and inside critical City facilities.
- Standards-based system and radios will provide better interoperability between public service and public safety agencies and will allow mutual aid agencies like BART, Oakland, San Mateo, and California Highway Patrol to operate within the City.

Upcoming 5-Year Project Budget:

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Projected Cost	3.9	3.9	3.9	-	-

Note: All figures are in \$ millions.

Replacement of the City’s Property Assessment and Tax System

Project Summary: The project is a multi-phase joint endeavor between the Office of the Assessor-Recorder (ASR), the Treasurer & Tax Collector (TTX), and Office of the Controller (CON) to secure and modernize the City’s property tax functions by replacing legacy systems that enable the assessment and collection of approximately \$3.2 billion in annual tax revenues.

The departments maintained two separate legacy IT systems to perform these functions. The ASR’s AS400 system tracks almost \$250 billion in assessed real and personal property value and manages data on approximately 212,000 parcels. TTX custom-developed mainframe application allows TTX to bill and collect property tax revenue and for CON to apportion revenue to taxing entities as required by law.

The new TTX system went live in July 2020. Phase 1 of the ASR system went live in January 2021.

Anticipated Outcomes:

- Increase Efficiency and Quality: Re-engineer assessment and tax business processes based on best practices and eliminate manual processes and workarounds.
- Improve Revenue Collection: Increase turnaround time for assessments and provide timely tax billing, revenue collection and certification to reduce revenue at risk.
- Build a Resilient IT Infrastructure: Secure \$3.2 billion in revenue through modern technology platforms that are secure and resilient.
- Increase Access to Data: Improve information available to public and policymakers and enable better revenue forecasting and data analysis.
- Improve Taxpayer Service and Transparency: Integrate property tax and assessment functions among the three departments for better customer service.

Upcoming 5-Year Project Budget:

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Projected Cost	10.0	-	-	-	-

Note: All figures are in \$ millions.

Telecom Modernization

Project Summary: Most City departments rely upon outdated, legacy phone systems unwieldy, expensive, and outdated. A significant portion of the City and County's current fleet of Avaya PBX systems are no longer supported by the vendor and will soon be obsolete.

VoIP (Voice over Internet Protocol) moves the technology for making and receiving telephone calls from a private telephone carrier to the Internet. Rather than rely on a separate legacy network, phone connections in City buildings will share the same network as its computer systems. This change enables City phone technology to use data networking protocols which add speed and make the system much more manageable. The change also preemptively eliminates a multitude of costly repairs, opening the way to effectively sunset legacy PBXs.

Anticipated Outcomes:

- **Cost avoidance:** The City's PBXs are outdated, failing, and many are unsupported. If they fail, it will require a large amount of money to replace them. VoIP preemptively eliminates those costs.
- **Efficiency:** Rather than manage 100's of disparate PBX's in many geographies, modernization consolidates management into one VoIP call manager cluster. This will reduce support staff effort, maintenance contracts, hardware and software complexity, training costs, and highly expensive data center space needed to house these PBX's.
- **High availability:** Unlike the current PBXs, the new VoIP call manager has been functioning for years with geographical high availability for improved resiliency.
- **Simplicity:** Collocating data and voice on the network means fewer wires, especially in new constructions or remodels. This means less cost and fewer types of technology, which adds up considering the City and County has 35,000+ users.
- **Flexibility:** VoIP paves the way for new applications that provide better flexibility, such as voicemail to email integration, fully enabled mobile functionality, video conferencing capabilities. Some of these capabilities will replace costly conference call numbers.

Upcoming 5-Year Project Budget:

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Projected Cost	1.4	3.2	2.5	1.7	1.0

Note: All figures are in \$ millions.

This project also requires an additional \$1.85 million from the Capital Plan.

United Electronic Health Records (EHR) System

Project Summary: In 2019, DPH began the process to transition to a new EHR system that unifies the patient medical record to a single technology system. These continuing efforts impact our hospitals, clinics, case management and social work teams, billing systems, and other teams furthering the SFDPH mission. This unified EHR system allows DPH to transition to a modern system to meet quality and safety objectives and enhance service deliver outcomes throughout all DPH care delivery. The project is now entering its third wave of implementation, where it will add new programs and improve delivery of services through deploying product upgrades.

Anticipated Outcomes:

- The transition of Behavioral Health Services to the new EHR is the largest project effort since the initial transition of physical health areas August 2019.
- Eliminate redundant systems & improve efficiencies.
- Improve ability to measure performance-based service delivery.
- Focus on patient-facing components to improve access (i.e. self-scheduling) and strengthen engagement in care.
- Additional major business units: laboratory, mammography, dialysis, endoscopy, and interpreter services.

Upcoming 5-Year Project Budget:

	FY 23-24	FY 24-25	FY 25-26	FY 26-27	FY 27-28
Projected Cost	\$45.3	\$46.0	-	-	-

Note: All figures are in \$ millions.

Appendix E: 5-Year Project Forecast

Department	Project Theme	Project Title	FY Start	FY Finish	Project Objective	Total 5-Yr Projected Cost
Airport	Risk Management: Cybersecurity & Business Continuity	SFO CyberDefense	FY2022-23	FY2025-26	The Airport must take corrective action to address several critical and high-risk vulnerabilities identified by a Controller's City Services Auditor (CSA) cybersecurity assessment. This effort focuses on integration of cyber defense and network operations.	1,500,000
Asian Art Museum	Infrastructure: Network & Data Centers	Network and Server Upgrade	FY2023-24	FY2023-24	Increase resiliency and up time for our security and life safety systems. Reduce risk of downtime and increase availability of services to patrons and staff.	185,000
Asian Art Museum	Infrastructure: Network & Data Centers	Wifi Upgrade	FY2023-24	FY2023-24	Replace outdated wifi access points.	100,000
Asian Art Museum	Risk Management: Cybersecurity & Business Continuity	Camera Server Upgrade	FY2023-24	FY2023-24	Requesting funds to replace old camera storage servers.	250,000
Assessor-Recorder	Major IT Project	Property Assessment and Tax Systems Replacement	FY2016-17	FY2023-24	The project is a multi-phase joint endeavor between the Office of the Assessor-Recorder (ASR), the Treasurer & Tax Collector (TTX), and Office of the Controller (CON) to secure and modernize the City's property tax functions by replacing legacy systems that enable the assessment and collection of approximately \$3.9 billion in annual tax revenues.	9,988,548
Board of Supervisors	Business Specific	Legislative Management System	FY2023-24	FY2023-24	The objective of this project is to deploy a state-of-the-art legislative management system by FY 2023-24.	1,000,000
Child Support Services	Infrastructure: Network & Data Centers	Server Room Relocation	FY2022-23	FY2023-24	The objective of the project is to realize the second phase of the department's consolidation plan to reduce its footprint at its main office location, thereby reducing rent and lease costs.	1,400,000
City Administrator	Infrastructure: Network & Data Centers	[ADM-Real Estate 1] City Hall Assistive Listening System Replacement - ADA Requirement	FY2022-23	FY2023-24	A working Assistive Listening is an ADA requirement for City Hall Hearing Rooms.	120,000
City Administrator	Infrastructure: Network & Data Centers	[ADM-Real Estate 2] City Hall Hearing Room Audio System Upgrade	FY2022-23	FY2023-24	City Hall Hearing Room audio system upgrade.	500,000
City Administrator	Residential Digital Services	[ADM-Digital Services] Support for Digital Security & Translation	FY2017-18	FY2024-25	Secure web hosting until sites are moved to secure City infrastructure in FY25, as well as human translation on the growing SF.gov site, as required for essential information by the Digital Accessibility and Inclusion Standard.	830,000
Controller	Business Specific	Banking Services	FY2023-24	FY2023-24	City recently transitioned to a new bank and must test and improve functionality with the new bank.	700,000
Controller	Business Specific	GASB 87 Lease Accounting SW	FY2023-24	FY2023-24	The Governmental Accounting Standards Board (GASB) is the latest lease accounting and financial reporting standard established. The purpose of this project is to implement state of the art SW.	225,000
Controller	Business Specific	Multiple Business Units	FY2023-24	FY2023-24	The purpose of this project is to add multiple business units to the city's financial system to improve system performance.	1,500,000
Controller Systems Division	Business Specific	Document management	FY2023-24	FY2023-24	The project purpose is to identify and improve the management of documents, forms, etc., within the system for internal and external stakeholders.	125,000
Controller Systems Division	Business Specific	PeopleSoft Upgrade Projects	FY2023-24	FY2024-25	PeopleSoft System needs to be updated regularly to provide latest images, patching, etc...	2,500,000
Controller Systems Division	Business Specific	SF Budget System Post Go Live Enhancements	FY2023-24	FY2023-24	Enhance the Department SF's Budget System	400,000
Controller Systems Division	Customer & Case Management	Public Integrity	FY2023-24	FY2023-24	This is to improve compliance with city's procurement policies.	300,000
Controller Systems Division	Customer & Case Management	Service Desk & Software Development LifeCycle tool	FY2023-24	FY2023-24	Provide greater services to users of the Department's Supplier Support Team.	250,000

Department	Project Theme	Project Title	FY Start	FY Finish	Project Objective	Total 5-Yr Projected Cost
Controller Systems Division	Customer & Case Management	Supplier & Customer Contract Equity	FY2023-24	FY2023-24	Improve equity functionality for procurement	300,000
Controller Systems Division	Customer & Case Management	Supplier Contract Management Enhancements	FY2023-24	FY2023-24	Improve System Functionality for end users.	750,000
Controller Systems Division	Customer & Case Management	Supplier Equity and other SF City Partner Portal Enhancements	FY2023-24	FY2023-24	Provide greater equity functionality in the City's Supplier Portal	350,000
Controller Systems Division	Digitization & Document / Records Management	Citywide Adoption & Business Process Standardization	FY2023-24	FY2023-24	Increase adoption and departmental standardization for SF Procurement.	125,000
Controller Systems Division	Digitization & Document / Records Management	Prior Pay Period Adjustment	FY2023-24	FY2023-24	Improve system functionality to improve processing of prior pay period adjustments.	250,000
Controller Systems Division	Digitization & Document / Records Management	SF Employee Self-Service Portal Enhancements	FY2023-24	FY2023-24	Provide greater functionality to end users of the Employee Portal	400,000
Controller Systems Division	Resource Management	Organizational Transformation	FY2023-24	FY2023-24	Division wide initiative to review current practices, identify practices that could be improved and implement proposals to improve systems' performance and end user experience.	250,000
Controller Systems Division	Staff Collaborative Tools - Data Analysis / Data Sharing	Implementation of a ServiceDesk Chatbot	FY2023-24	FY2023-24	Deploy a chatbot to help respond to end user questions.	250,000
District Attorney	Customer & Case Management	Electronic Subpoena Project	FY2023-24	FY2023-24	The objective of this project is to implement an electronic subpoena solution that provides notification and updates of subpoenas in real-time, by sending subpoena information to officer issued cell phones.	282,000
District Attorney	Customer & Case Management	eProsecutor Phase II Project	FY2023-24	FY2023-24	The objective of this project is to implement system enhancements to the Departments case management system.	150,000
District Attorney	Digitization & Document / Records Management	Electronic Media Discovery Project	FY2023-24	FY2023-24	The objective of this project is to implement a centralized solution that would allow for the electronic discovery of case materials (i.e., body worn camera video, 3rd party video, jail calls and audio files) to defense counsel.	500,000
District Attorney	Residential Digital Services	Digital Accessibility and Inclusion Project	FY2023-24	FY2023-24	Meet the COIT requirements for DAIS for city websites.	100,000
District Attorney	Risk Management: Cybersecurity & Business Continuity	Disaster Recovery Project	FY2023-24	FY2023-24	Implement a disaster recovery (DR) solution to support DAT's mission critical applications.	275,000
Emergency Management	Business Specific	Phone recording and Logger for E911 phone system	FY2023-24	FY2023-24	Upgrade the E911 phone recorder and logger as the current version will no longer be supported at the end of 2023	800,000
Emergency Management	Infrastructure: Network & Data Centers	Access Control Badging System Replacement NEW	FY2023-24	FY2023-24	DEM needs to replace their Building Access Control and Badge Reading system to maintain security and access control for the citywide 911 center, emergency operations center and citywide data center.	450,000
Emergency Management	Major IT Project	Computer Aided Dispatch Replacement	FY2023-24	FY2023-24	To plan for, to develop the budget and scope of work for, and to replace the City's Computer Aided Dispatch (CAD) System, including mobile CAD units for the City's first responders and SFMTA parking enforcement.	40,627,943
Emergency Management	Major IT Project	Public Safety Radio Replacement Project	FY2023-24	FY2023-24	This project is upgrading the Citywide 800 MHz Emergency Radio Communications System used throughout San Francisco by the City's public safety and public service agencies.	11,591,616
Emergency Management	Residential Digital Services	HSOC Street Crisis Pilot Project with SimTech	FY2023-24	FY2023-24	This project pilots the Show The Way mobile application to strengthen communication and connections between street response teams in the field and expedites information sharing needed to reduce duplication of and increase efficiency of services when multiple teams interact with the same people/clients in the street.	250,000
Emergency Management	Risk Management: Cybersecurity & Business Continuity	Perimeter and Building Video Security System Replacement	FY2023-24	FY2023-24	Update the video camera security system around the perimeter of the facility and throughout the building and data center, and installs new cameras on the interior of the building for better oversight of critical areas including generator and power distribution rooms, the Citywide Data Center and the Telecommunications Room.	500,000

Department	Project Theme	Project Title	FY Start	FY Finish	Project Objective	Total 5-Yr Projected Cost
Fine Arts Museums	Business Specific	Surveillance Security Systems Technology Upgrade	FY2023-24	FY2024-25	The project replaces obsolete and inadequate surveillance and security technology in the de Young and Legion of Honor museums.	600,000
Fine Arts Museums	Risk Management: Cybersecurity & Business Continuity	Surveillance Technology Expansion	FY2023-24	FY2023-24	Expand our surveillance capabilities in the Legion of Honor.	400,000
Human Resources	Customer & Case Management	HR Modernization: Electronic Onboarding and e-Personnel Files	FY2023-24	FY2023-24	Employee onboarding tool and implementing technology integrations where applicable. The second phase will improve the candidate experience by streamlining the application process, thus shortening the time-to-hire and increase accessibility to city employment.	571,535
Human Resources	Resource Management	Disaster Service Worker Management System	FY2023-24	FY2024-25	Improve the City's ability to recruit, deploy, and track Disaster Service Workers (DSWs) in the next emergency.	384,000
Human Resources	Staff Collaborative Tools - Data Analysis / Data Sharing	Employee Access to their City (Intranet/Employee Portal)	FY2023-24	FY2024-25	This project will facilitate company-wide communication, increase employee productivity, and improve team collaboration by helping employees find information and provide organizational clarity.	1,803,296
Human Services Agency	Residential Digital Services	CaSAWS Lobby Kiosks	FY2023-24	FY2023-24	Purchase and install self service kiosks into HSA client lobbies for the new State Automated Welfare System (SAWS) scheduled to go live in October 2023.	825,427
Human Services Agency	Resource Management	Laptop Refresh	FY2023-24	FY2027-28	Refreshing laptop and desktops on a 3 year refresh cycle	3,830,000
Juvenile Probation	Business Specific	JUV VoIP Project	FY2023-24	FY2024-25	Telecommunication system update for the Juvenile Probation Department will provide reliable telephone access to staff and the public. Facilities remediation is required to prepare the electrical, physical wiring, and HVAC climate control to house the network equipment.	1,500,000
Mayor	Residential Digital Services	DAHLIA San Francisco Housing Portal	FY2015-16	FY2023-24	Simplify the process of finding and applying for affordable housing in San Francisco by providing accessible online tools. Enhance efficiency and security of running affordable housing programs.	1,500,000
Police	Business Specific	HRMS PeopleSoft to Oracle Cloud	FY2023-24	FY2024-25	Replace the SFPD's legacy HRMS PeopleSoft system that is at end-of-life, expensive to maintain and operate.	550,000
Police	Business Specific	Permits and Carrying Concealed Weapons System	FY2023-24	FY2023-24	The objective of this Project is to implement an electronic solution to replace a paper-based manual process of processing and issuing permits, including for carrying concealed weapons, which will save substantial from application to issuing permits for both San Francisco residents and SFPD. San Francisco residents will be able to apply on-line and pay electronically for permits with the new system.	550,000
Police	Business Specific	Recruitment Tool	FY2023-24	FY2023-24	The objective of this Backgrounds Project is to replace a slow, paper-driven process of tracking pre-employment background investigation that is required for any applicant looking to join the San Francisco Police Department.	60,000
Police	Digitization & Document / Records Management	NIBRS-Compliant RMS	FY2019-20	FY2024-25	The objective of the NIBRS-compliant RMS Project is to transition the entry and reporting of Incident Reports and Arrests in CDW to a COTS (Commercial off the Shelf) vendor RMS (Records Management System) that meets the FBI mandate of National Incident-Based Reporting System (NIBRS).	8,220,000
Police Accountability	Customer & Case Management	Joint DPA and SFPD Case Tracking	FY2023-24	FY2023-24	Create a new application for case management that will allow DPA and SFPD to track all cases and officers' discipline jointly.	150,000
Police Accountability	Digitization & Document / Records Management	Digitization Project	FY2023-24	FY2023-24	Digitize all paper case documents and analog media files that we have and upload to a document managing software. Also, store all mixed media in climate-controlled vault to prevent degradation when exposed to fluctuating temperature and humidity over time.	550,000
Public Health	Major IT Project	Electronic Health Record (Epic) Implementation Wave 3 & 4	FY2023-24	FY2024-25	Implement Epic EHR to additional programs and improve delivery of services through deploying product upgrades	91,373,961

Department	Project Theme	Project Title	FY Start	FY Finish	Project Objective	Total 5-Yr Projected Cost
Public Utilities Commission	Customer & Case Management	Customer Service Bureau (CSB) Support Technology	FY2022-23	FY2025-26	Transform the Customer Service experience at the SFPUC by modernizing technology and enabling the optimization of business processes to align with current and future Customer Service needs and bring increased operational effectiveness.	14,200,000
Public Utilities Commission	Risk Management: Cybersecurity & Business Continuity	Cyber Security	FY2022-23	FY2023-24	Continue to build upon our existing Cyber Security investments through capability maturity to ensure consistent Cyber Security protections enterprise-wide; while leveraging a Risk-based approach to focus Cyber Security efforts.	449,000
Public Utilities Commission	Staff Collaborative Tools - Data Analysis / Data Sharing	Data Maturity Initiative	FY2022-23	FY2023-24	Increase awareness, understanding and availability of data throughout the organization to support strategic decision making. Develop baseline understanding of existing data sources and reporting functionality, define business priorities and requirements, identify resources, level-of-effort and road map, develop governance structure to support & maintain technology associated with making more data available for decision making. Identify, select, implement, train and support users on new and existing technologies.	250,000
Public Utilities Commission	Resource Management	Develop SFPUC Human Resources Services (HRS) & ServiceNow system	FY2020-21	FY2025-26	Develop SFPUC Human Resources Services (HRS) process/technology strategy, implementation of the resulting HRS analysis systems. Implementation of ServiceNow (or similar) system for employee lifecycle, payroll, labor and employee relations	360,000
Recreation and Parks	Business Specific	Migrate legacy HR system (PFS) to modern application	FY2023-24	FY2023-24	Replace legacy system that manages Personnel, Payroll, Training and other functionalities with a modern application.	200,000
Sheriff	Business Specific	Analog Phones Migration to VoIP	FY2023-24	FY2023-24	To help the Sheriff migrate from the old PBX analog phones system to the new City VoIP system.	200,000
Sheriff	Business Specific	County Jail Fiber Redundancy	FY2023-24	FY2023-24	Support county jail operations and improve network resiliency.	500,000
Sheriff	Business Specific	Learning Management System	FY2023-24	FY2023-24	Deliver training and educational needs to personnel to serve its clients and improve community engagement.	250,000
Sheriff	Business Specific	Support SFSO Digital Strategic Plan	FY2023-24	FY2023-24	Improve the department technology based on audit recommendations from the City controller's office.	200,000
Sheriff	Customer & Case Management	Current JMS Migration Support	FY2023-24	FY2023-24	Support the Sheriff in transitioning the department to the new JMS.	540,000
Sheriff	Customer & Case Management	Digital and Forensic Evidence System	FY2023-24	FY2023-24	Improve evidence handling and forensics management for cases and or court appearances.	400,000
Sheriff	Customer & Case Management	Litigation Hold and Court Document System	FY2023-24	FY2023-24	Improve sheriff legal processes for tracking caseloads, litigation hold, court documents management and eDiscovery	300,000
Sheriff	Customer & Case Management	New Jail Management System	FY2023-24	FY2023-24	Improve data processes vital in developing policies that better utilize resources and improve public safety	3,109,164
Sheriff	Customer & Case Management	Records Management System	FY2023-24	FY2023-24	Meet the law enforcement agency new FBI reporting mandates. Improve patrol, field and dispatch records management and incident reporting.	1,000,000
Sheriff	Customer & Case Management	Support In-Custody Visitation Programs	FY2023-24	FY2023-24	Improve the delivery of programs and community services for religious, family and legal visits for in-custody persons.	300,000
Sheriff	Digitization & Document / Records Management	Paperless Documents Management	FY2023-24	FY2023-24	Improve record retention and public interactions	200,000
Sheriff	Infrastructure: Network & Data Centers	Broadband and Network Upgrade	FY2023-24	FY2023-24	Support the current and future Sheriff programs delivered through streaming and internet services.	200,000
Sheriff	Infrastructure: Network & Data Centers	Sheriff -JUSTIS Migration to City Govt. Cloud	FY2023-24	FY2023-24	Migrate the Sheriffs City JUSTIS infrastructure vital to data sharing, policy and reporting to the City govt. cloud.	500,000
Sheriff	Residential Digital Services	Sheriff Public Facing Mobile App	FY2023-24	FY2023-24	Deliver the department services to the community through the Sheriff mobile application.	200,000
Sheriff	Risk Management: Cybersecurity & Business Continuity	Citrix and Horizon VMWare Platform Upgrade	FY2023-24	FY2023-24	Meet compliance and improve jail operations and services delivery.	500,000

Department	Project Theme	Project Title	FY Start	FY Finish	Project Objective	Total 5-Yr Projected Cost
Sheriff	Risk Management: Cybersecurity & Business Continuity	CLETS Interface Resiliency	FY2023-24	FY2023-24	Interface to the California Law Enforcement Telecommunications System that provide access to other law enforcement agencies databases	150,000
Sheriff	Risk Management: Cybersecurity & Business Continuity	Meet City Wide Cybersecurity Compliance	FY2023-24	FY2023-24	Meet city ordinances for departments cybersecurity compliance	750,000
Sheriff	Staff Collaborative Tools - Data Analysis / Data Sharing	Communication and Alerting Sys for Deputies	FY2023-24	FY2023-24	Enhance secure communication for Sheriff command staff and his deputies	200,000
Technology	Infrastructure: Network & Data Centers	Cloud Center of Excellence	FY2023-24	FY2024-25	Transitioning to cloud platforms to support growing department needs of modern services for their business systems.	2,700,000
Technology	Major IT Project	Telecom and LAN Modernization	FY2023-24	FY2027-28	Replacing the legacy Avaya Telecom systems with modern Voice Over IP (VoIP).	9,729,000
Technology	Risk Management: Cybersecurity & Business Continuity	Data Center Resiliency	FY2023-24	FY2027-28	Create redundancy in the City Data Center to ensure that there is continuity of network access, authentication, remote access, and provide a framework for more rapid recoverability of CCSF business applications.	2,195,000
Technology	Staff Collaborative Tools - Data Analysis / Data Sharing	JUSTIS Data Center of Excellence	FY2018-19	FY2027-28	Establish the Data Center of Excellence (DCOE)-- Operating Model and Governance and Reporting and Analytics. To support the DCOE, the JUSTIS infrastructure will continue to be modernized with relational databases and data lake.	6,594,488
Treasurer-Tax Collector	Business Specific	Empty Homes Tax	FY2023-24	FY2025-26	Implement Empty Homes Tax, which was passed by the votes in November 2022	3,250,000
Sheriff Department of Accountability	Customer & Case Management	Deputy Case Portal	FY2023-24	FY2023-24	Develop a web portal that allows Sheriff Deputies to look up the status of their cases and review past case findings.	150,000
Rent Arbitration Board	Customer & Case Management	Rent Board Modernization	FY2023-24	FY2025-26	Bring the Rent Board's daily operations to a new and modern workflow which will benefit both internal and external stakeholders.	1,500,000