CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: SMART CITIES AND SERVICE IMPROVEMENTS COMMITTEE

FROM: Khaled Tawfik

SUBJECT: INNOVATION AND TECHNOLOGY STRATEGIC PLAN ANNUAL REPORT

DATE: October 24, 2022

Approved _(signature)_   Date 10/26/2022

RECOMMENDATION

Accept the status report on the City's progress towards the strategies and goals of the 2021-2023 Innovation and Technology Strategic Plan, including equity solutions, security, digital services, optimization, and partnerships.

OUTCOME

The Committee will understand and provide feedback on the scope, approach, status, and next steps in the implementation of the Innovation and Technology Strategic Plan.

BACKGROUND

The City previously embraced its "Brilliant at the Basics" approach in 2016[1] to rebuild the organization's Information Technology Department (ITD) and capabilities. Staff focused on core operational performance, a small set of innovative projects, establishing a strong foundation of product and project management, investing in employee engagement and development, and founding the cybersecurity program. As a result, project delivery improved to a greater than 80% success rate from the initial 5% demonstrated between 2013. Customer satisfaction improved accordingly, from 72% in 2016 to 91% in 2022.

The 2021-2023 Information Technology Strategic Plan[2] (Strategic Plan) was approved by City Council in August 2021. The Strategic Plan reflects investments in the City's use of technology, data, and process design to address the City's Enterprise Priorities defined in the City Initiatives Roadmap[3], as well as City's Smart City Vision[4].

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[1] 2017-2019 IT Strategic Plan: https://sanjose.granicus.com/MetaViewer.php?meta_id=625589
[2] 2021-2023 IT Strategic Plan: https://sanjose.legistar.com/View.ashx?M=F&ID=9688250&GUID=CE94A8A9-8DF3-4F4A-AE3B-7FDDFC93FF46
[3] 2022-2023 City Roadmap: https://www.sanjoseca.gov/home/showdocument?id=86061
[4] San José Smart City Vision: http://sanjose.granicus.com/MetaViewer.php?view_id=&clip_id=9035&meta_id=565617

The Enterprise Priorities defined in the 2022-2023 City Initiatives Roadmap consist of:

- COVID-19 Pandemic Community and Economic Recovery
- Resilient and Sustainable City Infrastructure and Emergency Preparedness
- Ending Homelessness
- Safer San José
- Clean, Vibrant, and Inclusive Neighborhoods and Public Life
- Building the San José of Tomorrow with a Downtown for Everyone
- Strategic Fiscal Positioning and Resource Deployment
- Powered by People

Each of the eight Enterprise Priorities includes initiatives that respond to the challenges the City Council prioritized, of which, thirteen major are directly supported by critical engagements led by ITD. These include technology infrastructure, products-projects management, application development, San José 311 service delivery, cybersecurity, digital privacy, and equity program work. Additional technology projects were identified in the ITD Annual Workplan[5] to provide direct and indirect support for all City Roadmap initiatives.

To respond to the Enterprise Priorities, the Five Strategic Pillars were created and incorporated in the Strategic Plan to provide departments the tools needed to: (1) Enable Equity, (2) Secure the City, (3) Optimize Services, (4) Power Digital services post pandemic, and (5) Invest in Partnerships.
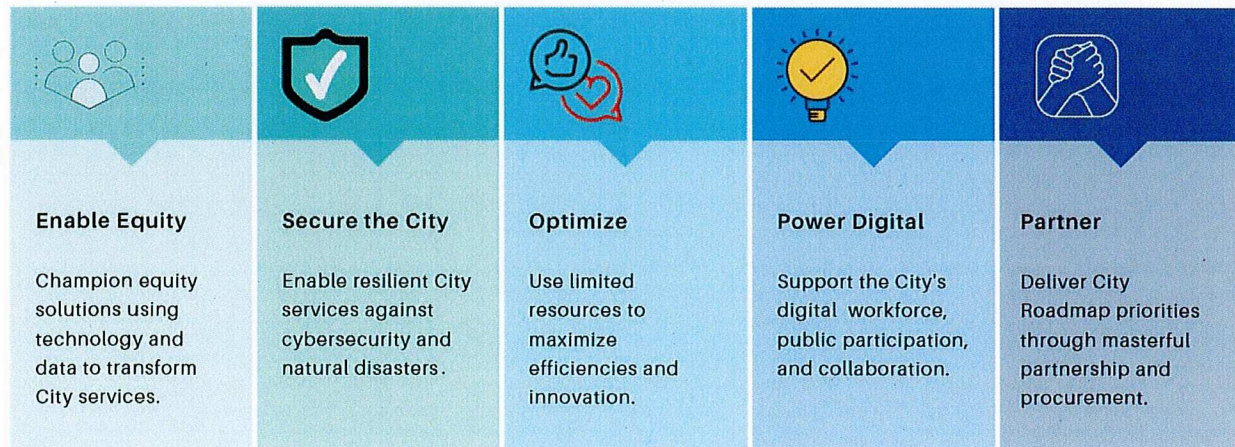

Enable Equity	Secure the City	Optimize	Power Digital	Partner
Champion equity solutions using technology and data to transform City services.	Enable resilient City services against cybersecurity and natural disasters.	Use limited resources to maximize efficiencies and innovation.	Support the City's digital workforce, public participation, and collaboration.	Deliver City Roadmap priorities through masterful partnership and procurement.

Figure 1— 2021-2023 IT Strategic Pillars

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[5] ITD Annual Workplan: https://www.sanjoseca.gov/home/showpublisheddocument/89541/637988642268230000

Figure 2 highlights the 2021-2023 Strategic Plan initial performance measures established in August 2021.

Figure 2— 2021-2023 IT Performance Targets

The effectiveness of the Strategic Plan can be measured by the internal and external progress achieved by implementing effective solutions and programs. In addition, assessments by third-party organizations provide unbiased confirmation of progress and needs. The annual Digital Cities Award assesses cities based on their use of technology to deliver operational excellence, engagement with customers, and innovative service delivery. Since 2017, San José has been ranked as a top-10 city. In 2017, the City of San José was honored as #8 among big cities. This was followed by #6 in 2018, #2 in 2019, and #1 in both 2020 and 2021. Coupled with resourcing in the bottom three of the 25 largest cities in the nation, Info-Tech Research noted that, "No local government has a record of higher achievement per dollar of technology investment... San Jose is a leader in strategic planning by aligning strategy development with the agile nature of modern IT."[6]

Additional recognition received by the City in 2022 include the Cybersecurity Privacy Award from the Cybersecurity Education Summit Committee and a Government Experience Awards prize from the Center for Digital Government for the 311 Services for Equity and Accessibility project.

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[6] Info-Tech Research Findings for the City of San José, slide 34:
https://www.sanjoseca.gov/home/showpublisheddocument/74445/637587601119570000

ANALYSIS

The 2021-2023 Information Technology Strategic Plan (Strategic Plan) guides the City's investments to ensure technology and innovation alignment with the City Roadmap and the Smart City Vision. An IT Annual Workplan is developed each July/August to identify work needed to support major projects, address new priorities, and take advantage of technology advances. ITD provides updates to the Smart Cities and Service Improvements Committee on a bi-monthly basis to communicate progress and the City's adjustments to changing priorities.

The IT Annual Workplan highlights projects, teams, and project leads. Initiatives flow to operational divisions, through to individual performance plans and evaluations, and establishes clear connections between the City Roadmap and each employee in ITD.

Measuring the Progress

Several internal and external factors can influence the progress of ITD work. Most notable are the vacant technology positions in ITD and across the City. The challenges of the current hiring environment, competition between employers in the region, and the movement of workers due to the COVID-19 pandemic affected every employer in the region. Attracting senior technical resources has been most challenging, especially in the areas of application development/support and infrastructure engineering.

The following are the updated statistics for the target results established at the beginning of the current Strategic Plan:

November 2022 Vs. 2021 – 2023 Targets

Resident Customer Satisfaction	Internal Customer Satisfaction	Project Success Rate	Services Reliability
64.5% ↘ ≥70%	92% ↗ 85%	74% ↘ ~80%	99.5% ↘ ≥99.9%
Service Response	IT % of City Budget	Security Incidents	IT Position Vacancies
8AM-5PM ➔ 24x7	~2.3% ↗ ~3.5%	# ↗ #	20% ↘ 12%

Current ↗ Goal

Figure 3—2021-2023 Performance Targets vs. Current Performance

- **Resident Customer Satisfaction**: This data is collected from the San Jose 311 (SJ311) surveys sent to residents when service requests are closed. The 64.5% low satisfaction rate is caused by the abandoned vehicles services being significantly lower than the rest of the SJ311 services. A project is underway to rebuild vehicle complaint handling and provide a comprehensive solution, creating more concerted solutions to the problem.

- **Internal Customer Satisfaction**: The performance is measured based on a City-wide annual survey for IT services. For FY21-22, the overall customer satisfaction was 91.28%.

- **Project Success Rate**: This is calculated based on the IT annual Workplan for each year and is based on meeting schedule, cost, scope, and business value definitions for projects. The 80% target was not achieved in FY2021-2022 with a 74% success rate. This was due to staff vacancies, as well as errors in oversight and administrative processes that are being corrected with the Portfolio-Products-Projects Office.

- **Services Reliability**: Although network and telecommunications systems had an uptime of over 99.9%, business applications had uptime of ~99.0%, resulting in a 99.5% average. This was mainly due to an extended outage of one system.

- **Service Response**: At current staffing, 8 AM – 5 PM Help Desk services continue to serve the City staff with efficient and responsive technology support. One department pays for after-hours, on-call support when needed for revenue-generating services.

- **IT % of City Budget**: Comparing the IT budget as a percentage of the City operating budget is an industry indicator to measure the City's commitment to innovation. A 4% technology budget ratio correlates with organizations that are adept at service innovation and consistently achieve high effectiveness and customer satisfaction. The current 2.3% ITD budget ratio indicates additional investments in technology and innovation would serve the organization's goals. ITD anticipates significant budget requests to invest in replacing major legacy systems starting FY 2023-2024.

- **Security Incidents**: This performance is an internal-only measure due to security concerns. The goal: few to no incidences with nominal to no impact if/when they occur.

- **IT Position Vacancies**: Hiring has been the top priority for ITD. Despite the current market, the department has had some success in accelerating the hiring of positions. Since January 2022, ITD hired 26 budgeted full-time positions and is actively recruiting for 17 positions. Additionally, in collaboration with the Human Resources Department, ITD expended its internship participation and added three high school students with the goal of expanding the program to address long-term talent needs.

Beyond the above measurements, the areas of focus, or Five Strategic Pillars, are progressing as follows:

Enable Equity

- **Community Wi-Fi:** Internet connectivity emerged as an essential service for residents in San José over the past three years. The negative impacts of lacking high-speed broadband was exacerbated by the COVID-19 pandemic, exhibiting digital divide needs across education, work, and health outcomes for communities across the nation.
  To provide equitable digital access, the City deployed free public Wi-Fi, in partnership with East Side Union High School District (ESUHSD), for the five attendance areas serving James Lick, Overfelt, Yerba Buena, Independence, and Andrew P. Hill high schools. Two attendance areas were delivered in recent months and three additional attendance areas are planned and contracted for construction. The five active attendance areas currently serve an area with approximately 160,000 residents. Upon full completion, about 250,000 people in those higher equity need attendance areas will have access to free high-speed Wi-Fi.

- **Equity Through Data Program:** A new Equity Through Data Lead will carry equity data work piloted with the Mayor's Office of Technology and Innovation (MOTI) in 2020-2021. Hired in August 2022, the Equity Through Data Lead is partnering with City departments to establish a data-informed look at equity across the City, enabling City teams to use data to inform decisions and deliver services with higher measurable equity outcomes.
  The Equity through Data Lead, along with the Digital Privacy Officer, is putting together an Equity through Data and Privacy (EDP) Program with grant support from the Knight Foundation. The EDP program's goal is to support the City Manager's office in expanding the City's data leadership and capacity to make data-driven decisions, measure outcomes, protect digital privacy, and drive results that incorporate equity into the planning and delivery of City services.
  Currently, the EDP program is supporting City's Digital Inclusion Wi-Fi analytics and 311 analytics; the COVID Recovery Task Force and its work on data, budgeting, and performance; and in developing the COVID Fiscal Dashboard showcasing the City's COVID funding sources and uses. The EDP Program will work with departments to use the outcome and impact metrics defined by the COVID Recovery Task Force in City operations and resource decisions.

- **Digital Privacy Program:** A new Digital Privacy Officer was hired in October 2021 and progress includes developing a nationally recognized community outreach campaign, streamlined privacy review process with high departmental engagement, robust vendor privacy requirements and standards, and staff education offerings for more responsible and effective use of information. Moving forward, the Digital Privacy Office is developing an approach to review Artificial Intelligence (AI) systems to ensure responsible use with antibias controls when adopted by the City.
  The program adopted and is applying the International Association of Public

Participation (IAP2) spectrum[7] for stakeholder participation as a framework to advance the City's ability to deploy intelligent technologies in collaboration with the community and with community value shaping how and where to use those technology and data solutions. To date, the City has engaged over 1,000 residents and advocates in-person and/or in webinars. Those engagements shaped projects for use of traffic safety cameras, people-counting cameras, Automated License Plate Readers, contract terms, and transparency portal requirements. ITD is exploring staffing options to grow the City's digital privacy engagement capabilities.

ITD will continue maturing its engagement practices so residents can collaborate with staff on technology and data usage to produce innovations that make San José safer, transparent, and respectful of privacy. Through its risk assessments, governance, communication, operational controls, and cybersecurity protections, the City is fulfilling all five elements to the National Institute of Standards and Technology's privacy framework.[8]

- **Accessibility:** Staff conducted an accessibility review in 2021 to dedicate to ease of access for all in the San Jose Community, not just compliance with the Americans with Disabilities Act. Improvements included adding Accessibility Skip Link functionality to assist users with vision needs use assistive technology to better navigate pages, apps, and links; focus indicators to help show what element on a web page is currently triggered; an accessibility statement with the City's commitment to people with disabilities; and options to report accessibility related issues to staff for response. Additional enhancements included using form labels in HTML instead of headings for non-sighted users, adding character counts to help users know how much text they can enter when there is a limit on fields, and staff added file input functionality to allow users to attach multiple files.

- **Housing Systems:** The Housing Department's Technology Initiatives continue to deliver on their mission of leveraging the power of data and web platforms to provide affordable housing services for residents more efficiently and effectively. New versions of the Doorway Affordable Housing Portal, the Rent Registry, and the Housing Loan Management System have been deployed in the past year. The pilot version of the Doorway system allows residents to submit digital applications online, view openings in Spanish, Vietnamese, Chinese, and English, as well as create accounts to see their application history. The work resulted in an approximately 90% reduction in time taken to submit an initial application through saving on transportation time and filling out a paper form. Similarly, the pilot version of the partner portal allows affordable housing developers and property managers to post current and upcoming residential rental vacancies at no cost. Version 4.0 of the Rent Registry opened to the public in August 2022, enabling landlords of rent-controlled properties to register latest information more easily for their units through features like selecting all for "no change", resulting in almost 50% of all registrations completed in the first 30 days. Finally, version 2.1 of

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[7] International Association of Public Participation spectrum for stakeholder participation: https://cdn.ymaws.com/www.iap2.org/resource/resmgr/pillars/Spectrum_8.5x11_Print.pdf
[8] The five elements of the National Institute of Standards and Technology Privacy Framework are: Identify, Govern, Control, Communicate, and Protect - https://nvlpubs.nist.gov/nistpubs/CSWP/NIST.CSWP.01162020.pdf

Housing Loan Management System is under development, streamlining the data entry process for the multiple teams that use it in the Residential Development Division.

Secure the City

- Cybersecurity measures are being embedded to every IT initiative to provide protection against the current threat landscape.

- ITD is collaborating the Office of Emergency Management to ensure the new Emergency Operation Center Building will be equipped with technologies designed to be resilient and provide sustainable performance during emergency activations. Cities have been facing significant threats over the past few years, and most recently are experiencing an uptick by nation states as well as cyber gang activity.

- ITD regularly provides relevant training to all employees to deal with spear phishing and social engineering attacks.

- The Chief Information Officer and Chief Information Security Officer are vigilant of the new emerging threats to government and are diligently working with all departments to mitigate any identified gaps by internal and external audits, third party security assessments, and other sources of information.

Optimize Services

- **FirstNet Communications:** ITD plays a central role as it manages the FirstNet communications program citywide which includes mobile device policy management, security infrastructure, mobile device management systems, guidelines, support systems, Cybersecurity application reviews and approvals, telecom expense billing and management, and vendor relationship management. With over 4,000 FirstNet devices used across San José, ITD has centralized the operations and optimized the usage of FirstNet for emergency preparedness.

- **Telecom Management Software:** The Telecom Billing group in ITD now utilizes telecom management software, ensuring that all wired, wireless, and other expenses are verified and optimized for cost savings. The team consults with City departments to ensure spending is controlled and underutilized services are terminated, resulting in significant savings and cost avoidance.

- **Applicant Tracking Software:** In partnership with the Human Resources Department, a new applicant tracking software will (1) modernize our hiring process to be attractive to all generations of the public service workforce, (2) improve the hiring process, and (3) make data informed strategic decisions. Project implementation will begin by the end of FY 2022-2023.

- **Recycle Plus/Residential Garbage and Recycling (RGR):** This service went live in March 2021 and is one of the most utilized SJ311 services. The new web service RGR

has allowed the City to optimize the following: Cost avoidance due to Haulers relying on a web-based solution instead of calling personnel. These savings are eventually passed to the City. Customer Experience, Residents are no longer constrained to business hours or having to talk to a representative to submit an RGR request resulting in an expanded User base.

Embrace the Power of Digital

- **Hybrid Work Environment:** In preparation for a hybrid workforce post-pandemic, all City Hall conference rooms have been equipped with new state of the art video conferencing systems to support the new return to office hybrid operation model.

- **Public Meeting Technology:** A project to upgrade public meetings technologies is underway to provide earlier access to Council agendas and agenda updates, improvement to the public comment system, and high video quality viewing experience across multiple devices.

- **Business Process Automation (BPA):** BPA is the process of converting paper forms and manual processes into digital workflows using automation software. As of October 2022, over 80 internal and external City forms have been converted into a digital format and as a result, processes are 60% faster and City staff saves about 17,000 hours per month

- **Development Services Transformation:** The project team has successfully completed and made major progress on multiple projects:

  o SJPermits "self-started" permits now available online for customers to initiate projects. About 80% of Public Works permits, 80% of Fire Prevention permits, and 9% of Planning permits that customers typically apply for are available to self-start online. Work underway to create application wizards for each department permit type to assist customers on finding the right permit for their needs.

  o SJePlans for Building (Building ProjectDox) progressing through user acceptance testing and anticipated to be in use by staff and customers by June 2023.

  o Completion of the requirements and requests for proposals (RFP) for the Code Enforcement System Replacement project, and in progress with Procurement to advertise for consultant support.

Invest in Partnerships

- The partnership with Facebook to deploy the Terragraph Downtown High-Speed Wi-Fi went live in October 2021. High-speed internet access is accessible throughout the core of downtown San José and is utilized by visitors, conventioneers, and businesspeople while on the streets of downtown San José.

- Partnerships have been key to multiple wireless deployments, including public-private partnerships with various telecom companies for 5G Small Cell and Macro Site deployments, and public investments in Community Wi-Fi in partnership with ESUHSD. A status report on these partnerships will be presented at the December 2022 Smart Cities and Service Improvements Committee. A status report on Community Wi-Fi and Digital Equity programming will be presented to the Neighborhood Services and Education Committee meetings in December 2022.

- BeautifySJ Encampment Management System is a cross-departmental business system to address urban blight and outreach workloads related to homeless encampments. The system will intake encampment service requests from residents, councilmembers and staff, route them to the correct department(s) to handle and connect to internal City databases to share data for reporting purposes. The multi-departmental team is commencing human-centered design sessions with a specialized vendor to define all relevant user personas, gather requirements from key stakeholders, and design the entire process flow of the application prior to procurement of a software solution.

CONCLUSION

The 2021-2023 Information Technology Strategic Plan has been an effective tool in aligning IT investments with the City Initiatives Roadmap and establishing the Five Strategic Pillars to respond to City priorities, Council members, leaders from City departments, and accounting for industry trends. By the end of 2023, San José's technology and innovation services will achieve a higher level in providing tools and solutions to improve collaboration among departments, break internal service silos, and realign services based on a better understand of public needs.

The centralized Resident Customer Satisfaction established measure will continue to serve as the overall success for SJ311 services and a clear indicator for the effectiveness of the internal teamwork across departments with the common goal of addressing public needs, regardless of the City's internal organization structure.

By making hiring the top priority, ITD is gaining ground in bringing technical staff on board and investing in training to increase employee retention and achieve higher productivity. ITD will continue to invest in our high school and college internship programs. The IT Executive Team is optimistic about the long-term impact on out IT staffing strategy. By building up the ITD team and investing in automation tools and capabilities, the City and department will reap the rewards of skilled and productive staff and gain cross-functional capabilities to better handle future staff challenges.

Moving towards the last phase of the 2021-2023 Strategic Plan, ITD recognizes new opportunities associated with the growing hybrid digital workforce and anticipate a new vision from the newly elected City Mayor and Council members at the end of this year. A new plan will

be developed in 2023 to recognize our successes and learned lessons, build on the momentum, and ensure the needed flexibility to anticipate and address new challenges.

EVALUATION AND FOLLOW-UP

Implementation of the proposed Information Technology Strategic Plan includes projects, strategies, and policies aligned with the City Roadmap. Status of related innovation and technology projects will report through the Smart Cities and Service Improvements Committee, with cross-reference to City Council as appropriate.

CLIMATE SMART SAN JOSE

The Information Technology Strategic Plan includes projects and policies that align with Climate Smart San José energy, water, or mobility goals.

PUBLIC OUTREACH

This memorandum will be posted on the City's website for the November 3, 2022, Smart Cities and Service Improvement Committee meeting.

COORDINATION

The memorandum has been coordinated with the City Manager's Office and City Attorney's Office.

COMMISSION RECOMMENDATION/INPUT

No commission recommendation or input is associated with this action.

FISCAL/POLICY ALIGNMENT

The Information Technology Strategic Plan designates areas for investment in support of the City Roadmap priorities. Changes to technology governance will involve shifting of funding allocations and/or the identification of new funding as organizational changes are decided. Specific funding recommendations are examined as part of the annual City Budget Process, taking into consideration the City's overall budget condition as well as Citywide and departmental priorities.

CEQA

Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action.

/s/
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