



COUNCIL AGENDA: 8/10/2021

ITEM: 3.5

FILE NO: 21-1712

Memorandum

TO: HONORABLE MAYOR AND
CITY COUNCIL

FROM: Toni J. Taber, CMC
City Clerk

SUBJECT: SEE BELOW

DATE: August 10, 2021

SUBJECT: 2021-2023 Information Technology Strategic Plan Report

Recommendation

As recommended by the Smart Cities and Service Improvements Committee on June 3, 2021, accept the report on the City's proposed 2021-2023 Information Technology Strategic Plan. CEQA: Not a Project, File No. PP17-009, Staff Reports, Assessments, Annual Reports, and Informational Memos that involve no approvals of any City action. (Information Technology/City Manager)
[Smart Cities and Service Improvements Committee referral 6/3/2021 - Item (d)1]



Memorandum

TO: SMART CITIES AND SERVICE
IMPROVEMENTS COMMITTEE

FROM: Rob Lloyd

SUBJECT: SEE BELOW

DATE: May 20, 2021

Approved

Date

26 May 2021

SUBJECT: 2021-2023 INFORMATION TECHNOLOGY STRATEGIC PLAN, PART 2

RECOMMENDATION

Review and accept the City of San José 2021-2023 Information Technology Strategic Plan and refer the report to City Council for adoption and for consideration in future budget processes.

BACKGROUND

The City of San José adopted its Smart City Vision in 2016¹. Working with the Mayor and City Council, the City Manager established the City's Office of Civic Innovation and Digital Strategy as part of the 2016-2017 Adopted Operating Budget to achieve that shared vision. Mayor and City Council requested action on priority initiatives and projects in its approvals².

The Mayor and City Council directed the City Manager to move the City's Information Technology function from "primarily a support function" to one that serves as a core business enabler for the whole organization. The Council further requested "A city-wide digital strategy will build on those efforts and help to move many pilot efforts to scaled impact."² The City's 2017-2019 Information Technology Strategic Plan³ was proposed to provide the necessary direction to deliver those outcomes. Council adopted that plan, which was extended to cover 2017-2020, based on evolving priorities and natural disasters that occurred over that period.

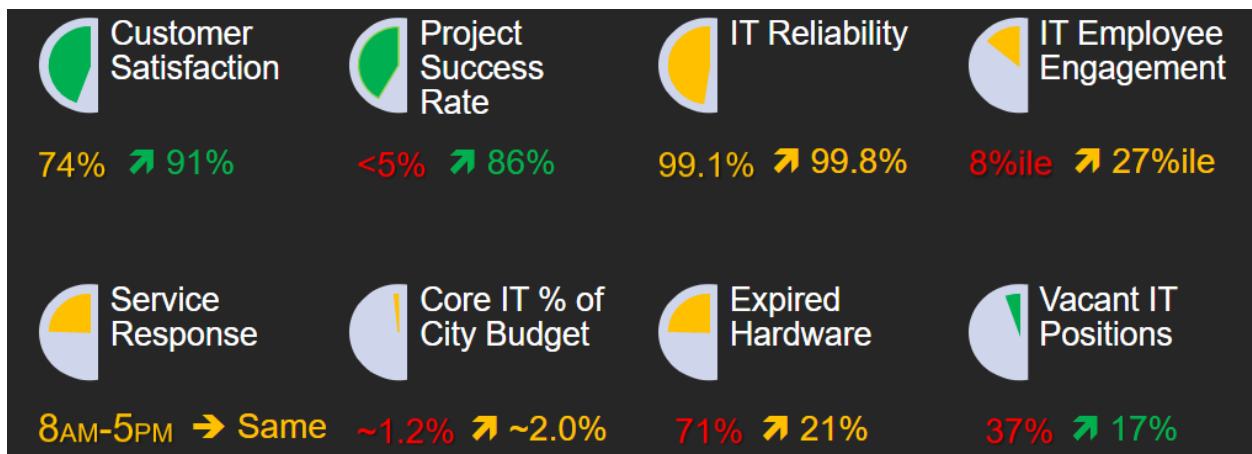
¹ Smart City Vision, 3.8: http://sanjose.granicus.com/MetaViewer.php?view_id=&clip_id=9035&meta_id=565616

² Smart City Memo: http://sanjose.granicus.com/MetaViewer.php?view_id=&clip_id=9035&meta_id=565617

³ 2017-2020 IT Strategic Plan: <https://www.sanjoseca.gov/home/showpublisheddocument/40591/637284280277370000>

Since 2016, the City invested in its technology core and innovation projects with the underlying resolve of becoming “Brilliant at the Basics”. This would serve as the foundation for stronger service delivery and innovation over time. Addressing areas of “tech debt” left from the City’s decade of deficits helped resolve over 50 outstanding audit recommendations; replace approximately 50% of the City’s software and hardware assets that were at end-of-life and end-of-support; and resolved technology infrastructure outages that were regularly impacting departments by 2016.

The City also increased investments in professionalizing its product and project management, cybersecurity, and employee engagement capacities. These investments supported increasing project success rates from less than 5% to over 80%, growing Customer Satisfaction from 72% to over 90% positive, and addressed growing cybersecurity risks. The figure below shows the performance measures of the 2016-2020 Information Technology Strategic Plan from beginning to conclusion, all showing clear improvements.



In sum, San José effectively progressed 14 years of technology in four years through defined outcomes and executing on focused plans across City departments. The actions of the Mayor, City Council, and the City Manager were prescient. The foundations and technology capabilities created over those years prepared the City to use them effectively when required in the COVID-19 pandemic response.

Third-party review of the City’s progress and initiatives has been consistently positive and complimentary. The annual Digital Cities Awards assess cities based on their use of technology to deliver operational excellence, engagement with customers, and innovative service delivery. San José never placed as a top-10 city from 2000 to 2016. 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 the most recent 2020 Awards. In this achievement, San José met the audacious “most innovative city in North America” goal set by the Mayor and City Council in its 2016 San Jose Smart City Vision. San José also surpassed cities with much larger technology budgets and staffing, including New York, Los Angeles, San Diego, Phoenix, Seattle, Mesa, Charlotte, San Francisco, Denver, and others.

Additional honors received by the City include two Smart 50 Awards, the 2019 Smart Cities of North America winner for Transportation, an Award of Merit from the American Planning Association, designation by the World Economic Forum as one of 36 global Pioneer Cities in 2020 (one of only two in the United States), and designation as a Bloomberg What Works Cities Silver community.

With the successful conclusion of the City's first Information Technology Strategic Plan, the ambition is to ensure the 2021-2023 iteration is equally as effective. The Information Technology Department (ITD) began meeting in October 2020 with City department leaders and with Councilmembers on the Smart Cities and Service Improvements Committee to set the City's three-year path. Input from Voice of the Customer discussions centered on (1) information technology needs to accomplish the 2021-2022 City Roadmap⁴ set by City Council on March 16, 2021, as well as (2) the role of technology and data in how departments would need to transform to deliver on their missions three years into the future. The meetings included over 110 individuals.

Concurrent with the Voice of the Customer meetings, staff assessed the current state of the City's technology environment and procured an expert technology advisory service. ITD leadership refreshed the Infrastructure Systems Plan of essential technology and communications investments; set a Digital Services program with Harvard Business School Community Partners; proposed Digital Services efforts in tandem with the Emergency Operations Center plans for staff's return to City facilities; reviewed and updated outstanding audit recommendations; examined progress on ITD employee engagement and hiring goals; and refreshed the city's Cybersecurity Work Plan given recent Request for Proposal contract awards and software supply chain attacks.

ANALYSIS

The 2021-2023 Information Technology Strategic Plan serves as a 2.5-year journey and period of investment in the City's use of technology and data. As the City's second Information Technology Strategic Plan, this iteration builds on the Brilliant at the Basics foundations of 2017-2020 to enable the City to address the *transformational* challenges defined by the City's Enterprise Priorities:

- COVID-19 Pandemic: Community + Economic Recovery
- Emergency Management + Preparedness
- Creating Housing + Preventing Homelessness
- Safe, Vibrant, + Inclusive Neighborhoods + Public Life
- Building the San José of Tomorrow with a Downtown for Everyone
- Smart, Sustainable, + Reliable City: 21st Century Infrastructure

⁴ San José City Roadmap: <https://www.sanjoseca.gov/Home/ShowDocument?id=71157>

- Strategic Fiscal Positioning + Resource Deployment
- Powered by People

Each of the Enterprise Priorities on the City Roadmap — except Future of Downtown — includes projects, strategies, and/or policies wherein technology is a major component or a driver. In total, 15 have a major technology connection. Over 30 additional technology projects have been identified on the Information Technology Strategic Plan’s 3-year horizon to support underlying operations and requirements of the City Roadmap work. Some of those efforts are already funded and active.

The process of forming a technology strategic plan is instructive. Patterns in input from departments, performance data, asset information, and consistencies in audit recommendations provide insights by painting a picture of a City technology environment that has developed strengths from past deficits. However, those patterns also indicate weaknesses that include:

- Legacy systems that are functional, but that do not support future service delivery goals. Chief among systems needing to be modernized are the City’s financials and budget platforms, the human resources and talent management platform, a payroll system that includes 25+ years of customizations, disparate and incomplete asset and lease management systems, and industrial control systems that do not automate nor provide desired efficiencies nor resilience.
- Slow and incomplete controls for asset and license management, systems patching, version control, and cybersecurity response.
- Too many manual work processes and one-deep functions that leave City operations prone to inconsistencies and lack of resilience, especially when key individuals depart.

Meeting the needs of current operations and supporting the goals of City departments will require significant one-time and long-term investments. Indeed, almost every department gave input how technology, data analytics, and innovation are critical to their goals and service delivery. These needs are best addressed as part of the City Budget Process, in full view of Citywide priorities and how optimized investments in technology and data support achieving City goals.

Related to investment, technology strategic planning assessments traditionally generate a catalog of highly department-centric projects and service gaps. Occasionally, organization-wide goals emerge, most often when a single major initiative is active. Rarely is input strategic or consistent from a Citywide perspective.

For the 2021-2023 Information Technology Strategic Plan, the global pandemic and the City Roadmap were referenced regularly by departments. This produced a rare and consistent lens for departments to gauge their priorities. Along with specific departmental objectives, directors and their key staff spoke to multiple common themes. In order of occurrence:

- (1) Using technology and data to define and then deliver on equity outcomes, as well as to balance fiscal challenges.
- (2) Adapting to the new realities of a hybrid/remote workforce and digital public participation.
- (3) Building capacity to use data for better decision-making, service delivery, and transparency with the public.
- (4) Re-engineering their services to be more effective and efficient.
- (5) Recognizing that resilience, cybersecurity, and privacy risks are now ongoing imperatives.

This coherence allows ITD to align technology strategies and investments. Combined with broader technology trends, there are opportunities in digital services tools and platforms and with customer experience/employee experience design that can help address re-engineering City services to be more accessible, equitable, and efficient. Artificial intelligence (AI) can learn processes and patterns to enable hyper-automation. Applied with anti-bias methods in relevant uses, these technologies have potential to help address limited staff capacities. Well-governed data, analytics platforms, and education can improve decision-making and transparency, such as through the City's strong geospatial information systems (GIS) program. And a consolidated cybersecurity program will continue to help protect the City's people, information, and systems from increasing threats of growing severity.

To validate the City's Information Technology Strategic Plan, ITD procured an expert technology advisory service. Info-Tech Research, a top-five tech consultancy, won the bid. The firm has deep data research and expert staff spanning assessment of technology products/services segments, operational IT metrics, and applied models for technology management.

Info-Tech Research assessed the City's proposed Information Technology Strategic Plan based on industry trends, their performance metrics data and applied management frameworks, their published industry guidance, and San José's customer input. Based on the City's delivery and performance data, Info-Tech's general observation is that "No local government has a record of higher achievement per dollar of technology investment" than San José. Info-Tech affirmed three priorities from the City's Information Technology Strategic Plan as proposed by ITD, encouraged further thought and action in each, and made two specific recommendations for the City of San José to examine:

Priority 1: Support Equity Initiatives. To be highly effective in these efforts, (1) Prioritize residents, (2) Train for digital literacy, (3) Set Internal Partnerships, and (4) Set External Partnerships.

Priority 2: Manage a Hybrid Organization. This is a change all organizations must accomplish in 2021. Build for extreme flexibility affecting culture, innovation, and hiring.

Priority 3: Double down on Digital Services. This strategy drives at four outcomes the City identified: (1) Ensure greater openness and inclusiveness; (2) Encourage engagement; (3) Create a data-driven culture; and (4) Address digital security and privacy.

Recommendation 1: Improved Technology Governance. Given San José’s resourcing, implement a governance model that emphasizes consolidating core functions, keeps business-specific functions aligned with departments, and coordinates shared interfaces. Apply a Control Objectives for Information Technologies (COBIT) framework to identify and consolidate or federate technology functions.

Recommendation 2: Public Safety Technology Division. To maximize impact of public safety dollars, create one Public Safety Technologies division across Fire, Medical, Police, and Emergency Management as a single function to create tightly coupled emergency information and communications services. Invest in common capabilities and eliminate redundancies.

CONCLUSION

The 2021-2023 Information Technology Strategic Plan supports the City Manager’s Enterprise Priorities by providing the information and communications tools, security, innovation, and supportive services that enable superior service delivery. The Information Technology Department defined a new mission to align with that vision and direction:

“San José puts powerful tools and information in the hands of people to unleash their brilliance in service to our community.”

Five Strategic Pillars respond to those priorities as defined by the City Roadmap, Council Committee members, City Departments leaders, and accounting for industry trends. By the end of 2023, San José’s technology and innovation services must provide departments the tools they need to:



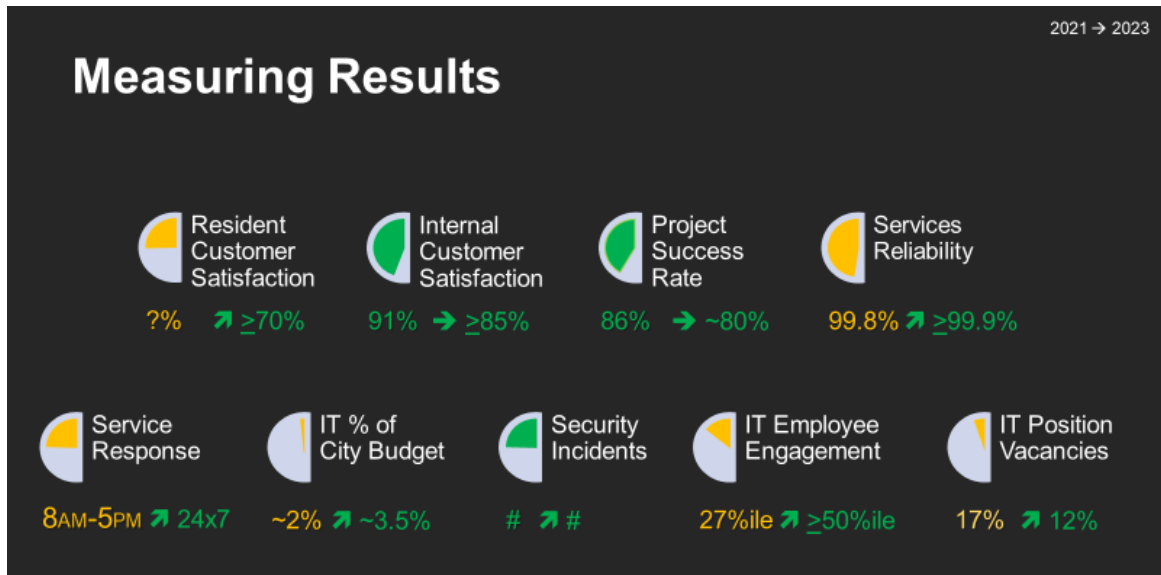
Under the **Enable Equity** and **Optimize** pillars, departments and ITD expect to work together on new projects and policies as specific initiatives are defined. Indeed, portions of the City Roadmap have work definition phases to complete, at which point departments will have enough clarity to engage with technology partners to define and build what they require.

Of special note, the City of San José must position to capitalize on its strength of partnering with companies and non-profits in Silicon Valley. Consistently, the organization's most transformative work has come from instances where City departments worked with third parties to create new and better service delivery models. Examples include:

- Centralized emergency vehicle pre-emption that reduced emergency response times;
- 5G and small cell partnerships that generated investments of \$500M in local telecommunications, laid the groundwork for providing 13,000+ cellular WiFi devices to community members in the pandemic, and set the City to enable integrated emergency communications through FirstNet;
- 911-311 transformation that shifted call loads from emergency call handlers to the City Customer Contact Center; and
- Allying with Community Based Organizations to provide 50 million plus meals to residents in the COVID-19 pandemic.

The ability to align, defined mutual benefits in Public-Private partnerships, deliver novel work, and cooperatively tell the story of successes allows San José to tap into the brilliance of its residents and businesses. This is an exceptional opportunity that few communities have at their disposal — chances to learn and improve with partners, where those partners make the necessary investments not otherwise possible given the City's resource constraints.

Connected to the Information Technology Strategic Plan's Five Strategic Pillars, staff identified the following performance measures with which to track progress. These metrics focus on service trust, including one for Resident Customer Satisfaction with digital services and an internal-only measure of cybersecurity program outcomes. The Information Technology Strategic Plan retains the IT Position Vacancies metric based on input from Info-Tech Research. Advisors properly noted that vacant positions impact lean staffs like San José's disproportionately, along with noting the fact that the City will struggle to hire for positions due to competition for talent against Silicon Valley firms that offer richer pay and benefits.



If approved, the City will execute on these strategies and an initial work plan of over 30 projects and policies, over the next 2.5 years. The Annual IT Work Plan flows to operational Divisions, through to individual performance plans and evaluations, thus connecting the City Roadmap to each employee in the Information Technology Department. As priorities arise and change, ITD adjusts the Annual IT Work Plan quarterly. This provides agility to strategic planning that is too often absent. Progress reporting will follow the Smart Cities and Services Improvements Committee bi-monthly updates from ITD on Citywide technology efforts.

This Information Technology Strategic Plan lays the path that will enable the City to manage its current and future needs. It is a key step in the City’s ability to drive and then sustain the elements of San José’s City Roadmap, the City Manager’s Enterprise Priorities, and the San José Smart City Vision. Collectively, that direction demand information and collaboration tools and a coherent approach from which to apply the benefits of information and communications technologies.

EVALUATION AND FOLLOW-UP

Operationalizing with the FY 2021-2022 City Roadmap

Implementation of the proposed Information Technology Strategic Plan includes projects, strategies, and policies aligned with the City Roadmap. These efforts will be coordinated as part of the City Budget Process. 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 item will be posted on the City’s website for the June 3, 2021, Smart Cities and Service Improvements Committee agenda.

COORDINATION

The memorandum has been coordinated with the City Manager’s Budget Office, City Attorney’s Office, City Auditor’s Office, and the Office of Civic Innovation and Digital Strategy.

COMMISSION RECOMMENDATION/INPUT

The memorandum does not require input from a board or commission.

FISCAL/POLICY ALIGNMENT

This action is consistent with the City’s Operating Budget City Service Areas Delivery Framework, as well as the March 2021 City Roadmap approved by City Council.

COST SUMMARY/IMPLICATIONS

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. PP17-007, Preliminary direction to staff and eventual action requires approval from decision-making body.

Smart Cities and Service Improvements Committee

May 20, 2021

Subject: 2021-2023 Innovation and Technology Strategic Plan, Part 2

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/s/

ROB LLOYD

Chief Information Officer

Information Technology Department

For questions, please contact Rob Lloyd, Chief Information Officer, at rob.lloyd@sanjoseca.gov,
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