Smart Cities and Service Improvements Committee

Meeting of June 3, 2021

CITY OF
SAN JOSE
CAPITAL OF SILICON VALLEY

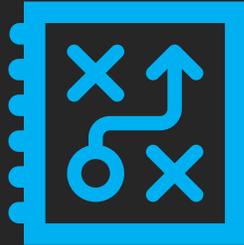# 2021-2023 Information Technology Strategic Plan

(Continued from May 6, 2021)

Rob Lloyd, Chief Information Officer
Jerry Driessen, Assistant Chief Information Officer
Information Technology Department

June 3, 2021

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

City Roadmap

IT Strategic Plan

Annual IT Workplan

Employee Goals

Technology Strategic Planning

Feedback Loops

Assessment

- Technology Environment
- Audits + Projects
- Themes

Strategies

- Unifying Needs
- Mission + Vision
- Resource Optimization

Input

- Departments
- City Manager
- Council
- IT Experts

Resourcing

- Budget Process
- Multi-Year Plans
- Sinking Funds

IT Strategic Plan Inputs + Products

- CMO + Department Input
- Committee + Council
- Audits
- Trends + Risks
- Performance Metrics
- Harvard – Digital Services
- Assessment w/ Expert Advisor

Strategies and Core Metrics

Governance and Optimization

Resource Plan

Objectives and Key Results

Voice of the Customer

What do you need from technology to support you in delivering the City Roadmap? How must we help your department be what it needs to be in three years?

Recurring Themes

- Equity will Reshape the City and Departments
- "New Normal" for Communication, Work, and Collaboration
- Time to Re-Design Services and Go Digital
- Harness Data for Decisions & Transparency
- Need More IT & More than Ever
- Security Important

Specific Imperatives

- Police Reform
- Development Services Transformation
- Fire IT Master Plan
- PRNS Data and Staff Support
- Grow Use of GIS / Grow Beyond GIS
- Leap in Industrial Control Management Tech
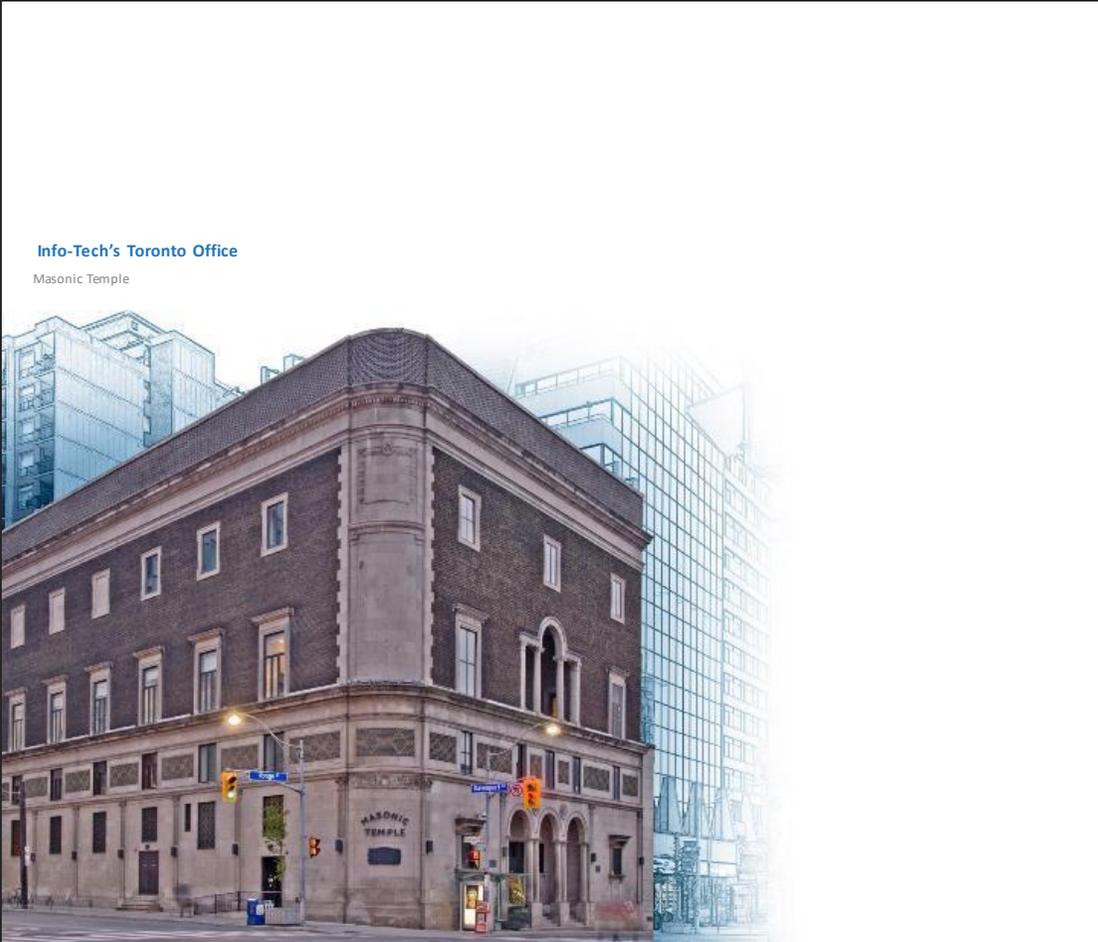- Climate Smart Initiatives

The Gaps

- Clarity in How to Set and Meet Equity Goals
- Not Enough People w/ Skills to Harness Data
- Not Enough IT People for Support & Projects
- Investment to Manage *Better* in New Normal

About Info-Tech Research Group

**Info-Tech's Toronto Office**
Masonic Temple

Info-Tech is a full-service professional IT Research, Advisory, and Professional Services firm, founded in 1997 with approximately 660 full-time employees throughout North America and Australia, largely in Ontario, Canada. Our U.S. office is located in Las Vegas, NV. Our corporate head office is located in London, ON Canada with a secondary location in Toronto, ON Canada. We recently opened our first office outside of North America in Sydney, Australia.

Our services include technology based business research, industry-specific reporting, best practice methodologies, benchmarking, market analysis research, and consulting. Info-Tech offers a practical approach to complex IT and business issues. Our consultants, including veteran IT professionals and CIOs, work side-by-side with you and your team in a co-operative approach that delivers results and leaves you with the tools needed for continued success.

We are the world's fastest growing information technology research and advisory company, proudly serving over 30,000 IT professionals. For more details on who we are, please refer to www.infotech.com.

IT Budget/City Population Analysis

IT Budget by City Population (2020)
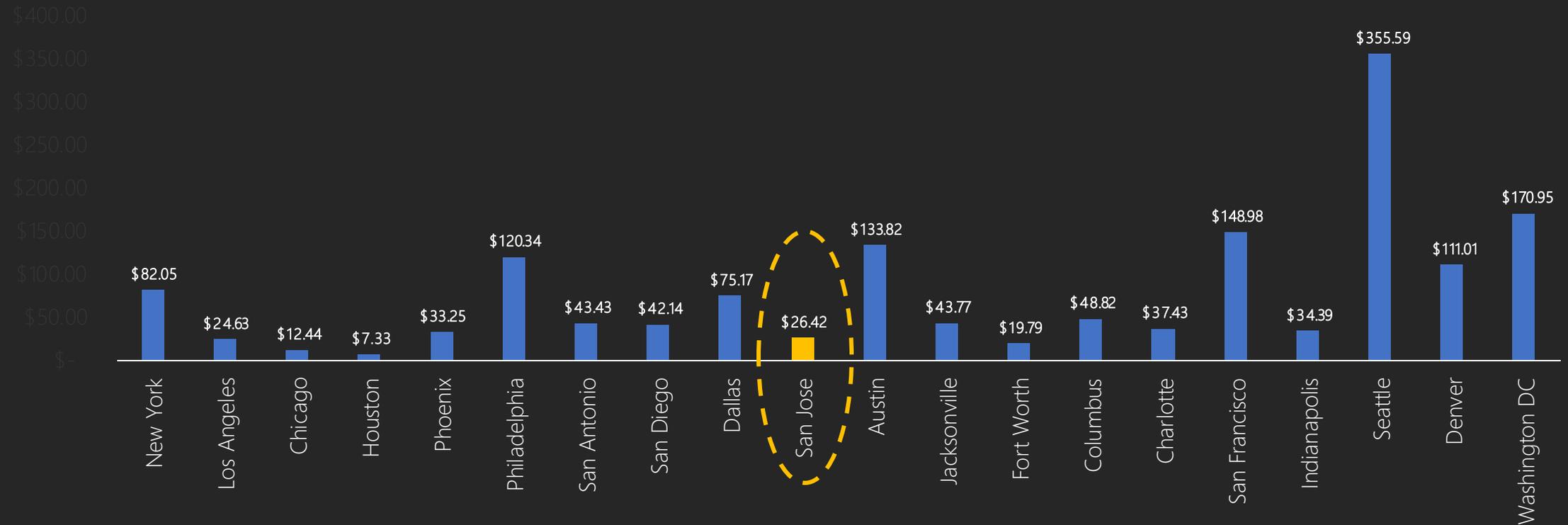
TOP 20 US Cities in M (by population, 2019 US Census)
2020 IT Budget from respective City Budget documents

Key Trends Identified

01. Enabler vs. Solution Provider

- ❖ Develop a Strategy for the City of San Jose and align strategic initiatives towards digitization
- ❖ Establish integrated service design and deliver policy for UX

02. Personalized Services

- ❖ Improve connection with citizens of San Jose through single sign-ons
- ❖ Increase levels of trust between government and citizens
- ❖ Develop roadmap integrating essential government service

03. Processes and Governance

- ❖ Establish a federated governance model with a breakdown of capabilities to be centralized, decentralized across the organization

04. Digital Services

- ❖ Adopt a Digital Transformation Strategy for the City of San Jose and identify areas to collect and re-use data
- ❖ Adopt digital first strategy

05. Equity

- ❖ Engage with non-profits and other organizations outside of government to gain insight into their needs and identify potential solutions

06. Service Delivery

- ❖ Implement an HR plan to increase resources for various IT services
- ❖ Implement HR policies to track skills development and employee engagement

07. Cybersecurity

- ❖ Build cybersecurity office with an advisory board and workplan
- ❖ Build a Secure City initiative through partnering with cybersecurity leaders

08. Smart Government

- ❖ Utilize IoT to distinguish duties of various departments

Priority #1: Support City Equity Initiatives

Identify areas of lower income and prioritize. Build awareness around current available resources. Create programs to provide families in need with additional devices given current climate with COVID-19

1

Prioritize Residents

2

Training

Train for digital literacy across the City (internally and externally) and develop local broadband mapping tools

Align with internal teams to be an effective equity player

4

Internal Partnerships

3

External Partnerships

Partner with community based organizations and non-profits

Priority #2: Manage a Hybrid Organization

Hybrid work is inevitable

Business leaders are on the brink of major changes to accommodate what employees want: the best of both worlds.

66%
of leaders say their company is considering redesigning office space for hybrid work

73%
of employees want flexible remote work options to stay

67%
of employees want more in-person work or collaboration post-pandemic

- The data is clear.

- Extreme flexibility and hybrid work will define the post-pandemic workplace. Employees want control of where, when, and how they work, and expect businesses to provide options.

- The decisions business leaders make in the coming months to enable flexible work will impact everything from culture and innovation to how organizations attract and retain top talent.

Priority #3: Double Down on Digital Services

01.

Ensure greater transparency, openness and inclusiveness of government processes and operations

- ❖ Adopt open and inclusive processes
- ❖ Accountability and transparency regulations
- ❖ Address existing digital divides

02.

Encourage engagement and participation of public, private and civil society stakeholders in policy making and public service design and delivery

- ❖ Address citizen, organization and resource allocation issues
- ❖ Identify and engage non-government organizations

03.

Create data driven culture in the public sector

- ❖ Develop frameworks to enable, guide and foster access to use, and re-use of increasing levels of data and statistics

04.

Risk Management approach to address digital security and privacy issues

- ❖ Increasing confidence in government services
- ❖ Engage relevant stakeholders and integrate digital government strategy in overall public administration reforms

Info-Tech Recommendations

❖ Given the City's resources, consolidate and federate more of the common technology functions in the City. Focus departmental focus on applications specific to them.

❖ Consider a Public Safety Technologies Division with a corresponding Deputy Chief Information Officer to provide a consolidated technology approach to public safety and tightly coupled emergency response capabilities across fire, police, medical, and emergency management.

Mapping the City's IT Strategy
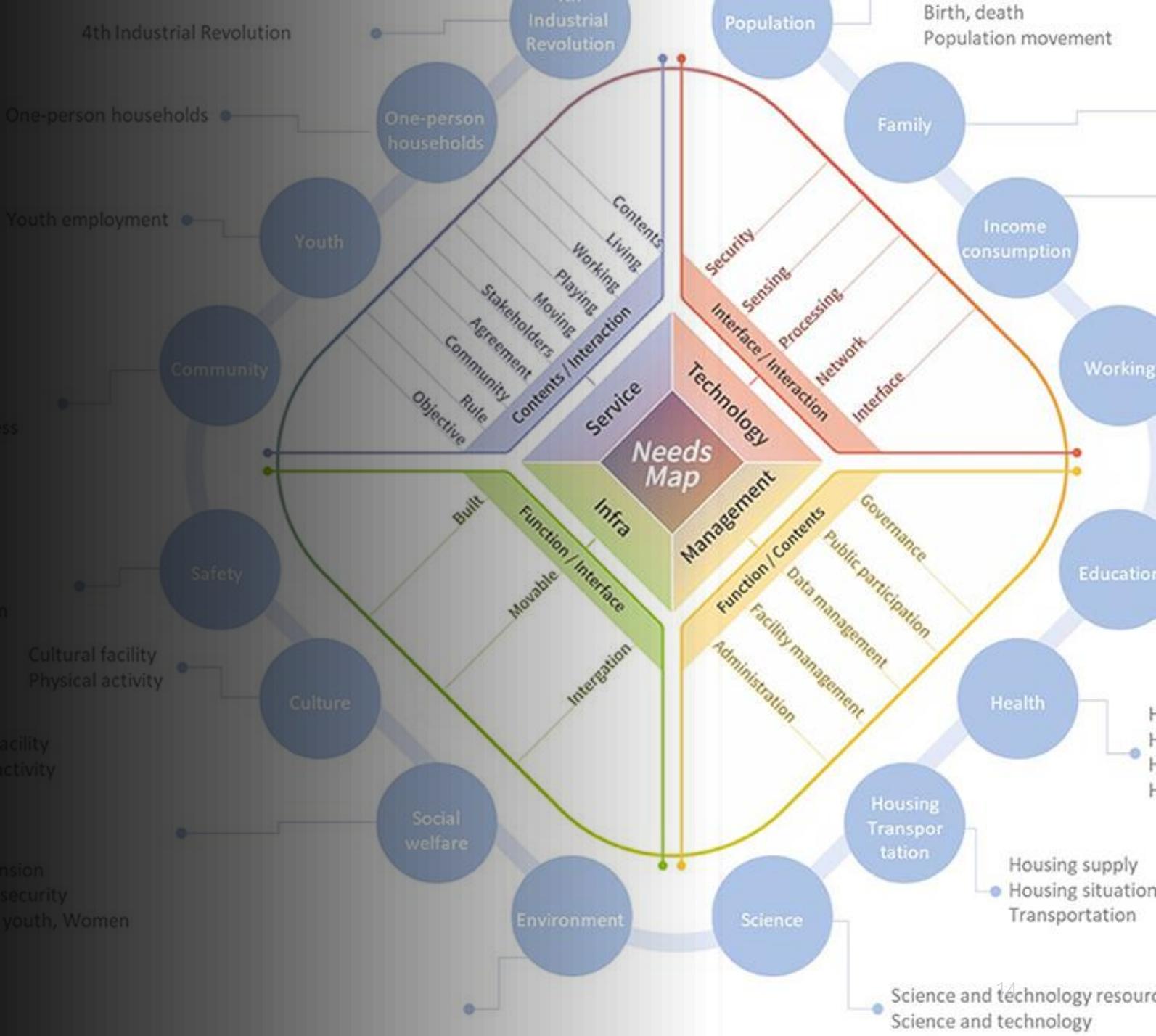
Realigning Mission

"San Jose puts powerful tools and information in the hands of people to unleash their brilliance in service to our community."

By 2023, San Jose's Technologies Must...

Enable Equity

Champion equity solutions using technology and data to transform City services.

Secure the City

Enable resilient City services against cybersecurity and natural disasters

Optimize

Use limited resources to maximize efficiencies and innovation.

Power Digital

Support the City's digital workforce, public participation, and collaboration.

Partner

Deliver City Roadmap priorities through masterful partnership and procurement.

Innovation & Technology Architecture

Enabling City Services

Hiring + Engagement

Resilience + Security

| Collaboration + Communication | Productivity Systems | Omnichannel + Process Automation | Improving Awareness + Decisions | Content Management + eDiscovery | Hyper-Effective Control Systems |

Application and Data Integration

| Data Discovery & Search | APIs/Work System Integrations | Automated/Massive Industrial Control | Artificial Intelligence |

Data Ecosystem

| Clean Data Sources | Access / Risk Control | Analysis & Visualization | Engagement thru Data | Data Governance | Prediction / Automation |

Core Applications

| Fiscal & Budgeting | People Systems | Productivity | Content / Search | Specialized Systems | Monitor / Support Tools |

Infrastructure Layer

| Compute & Virtualization | Storage/Cloud | Endpoints + Mobile | Data/Voice/Video Comm | Sensing + Control (Smart/IOT) | Business Continuity |

Recommendation: Governance for San Jose

#	Category							
01	Strategy & Governance	IT Governance	Strategy	Performance Measurement	Policies	Quality Management	Innovation	
02	People & Resource Mgmt	Stakeholder Management	Resource Management	Financial Management	Vendor Selection & Contract Management	Vendor Portfolio Management	Workforce Strategy	Strategic Communications	Organizational Change Enablement
03	Enterprise Architecture Capabilities	Enterprise Architecture	Telecom Architecture	Systems Architecture	Data Architecture	Application Architecture		
04	Service Portfolio Mgmt	Operations Management	Service Portfolio Management	Release Management	Service Desk & Incident Management	Problem Management	Change Management	Demand Management
05	Infrastructure Portfolio Mgmt	Asset Management	Infrastructure Portfolio Management	Availability & Capacity Management	Network & Infrastructure Management	Configuration Management	Storage/Cloud	Compute & Virtualization
06	Information Security & Risk	Cybersecurity Standards & Operations	Identify, Protect & Detect	Prevention & Training	Incident Response & Recovery	Compliance, Audit & Review	Continuity Planning & Drills	Intelligence Sharing w/ Joint Response
07	Application Capabilities	CORE APPS / Enterprise APPS	Fiscal and Budgeting / Application Management	People Systems / Systems Integration	Productivity / Application Development	Content Mgmt. / User Testing	Specialized Systems / Quality Assurance	Monitoring Systems / Application Maintenance
08	PPM & Projects	Portfolio Management	Requirements Analysis	Project Management				
09	BI & Reporting	Data Catalog	BI & Reporting	Data Quality & Governance	Database Operations	Enterprise Content Management		

Callout 1: Hybrid functions are contextual – if clear standards must be met, we recommend centralized IT governance, otherwise decisions can be made at business departments level

Callout 2: Applications should be assessed on outcomes: Core Apps and SJC wide apps should be centralized, and Enterprise apps should be decentralized
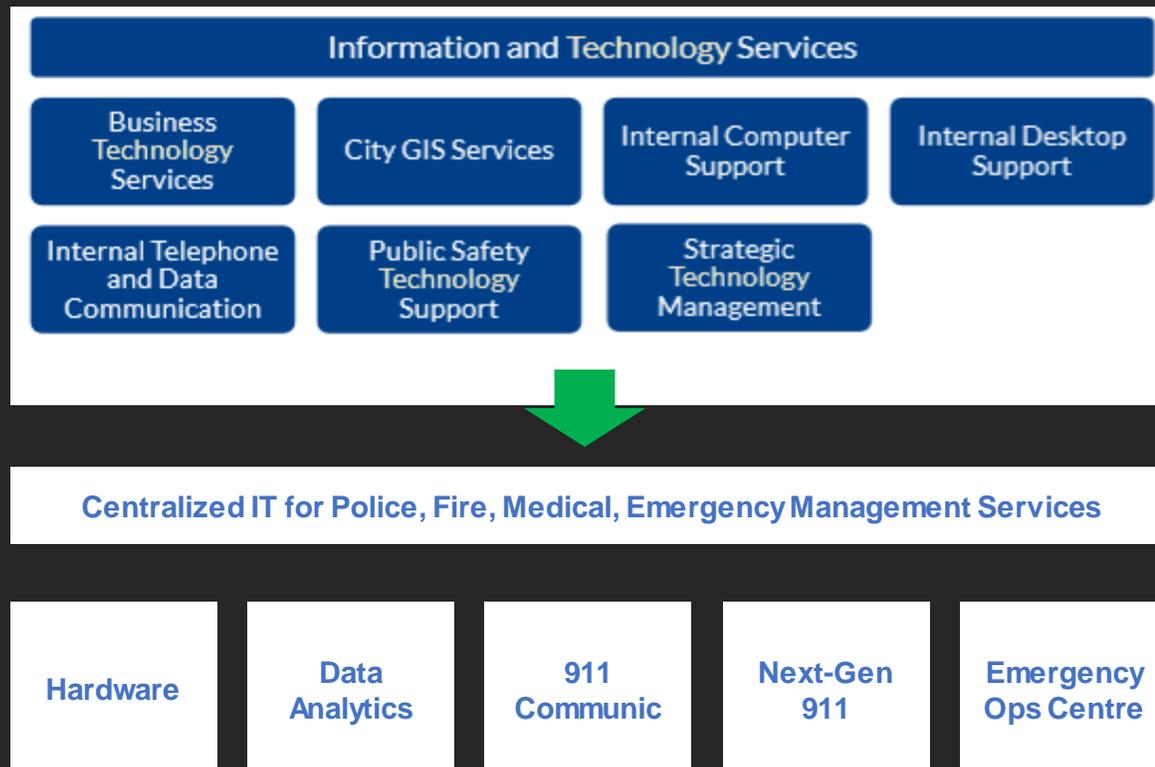
For discussion

Legend: Hybrid · Centralize · Decentralize

Recommendation: Public Safety Technologies

For discussion

Type of Model

Information and Technology Services

Business Technology Services	City GIS Services	Internal Computer Support	Internal Desktop Support
Internal Telephone and Data Communication	Public Safety Technology Support	Strategic Technology Management	

Centralized IT for Police, Fire, Medical, Emergency Management Services

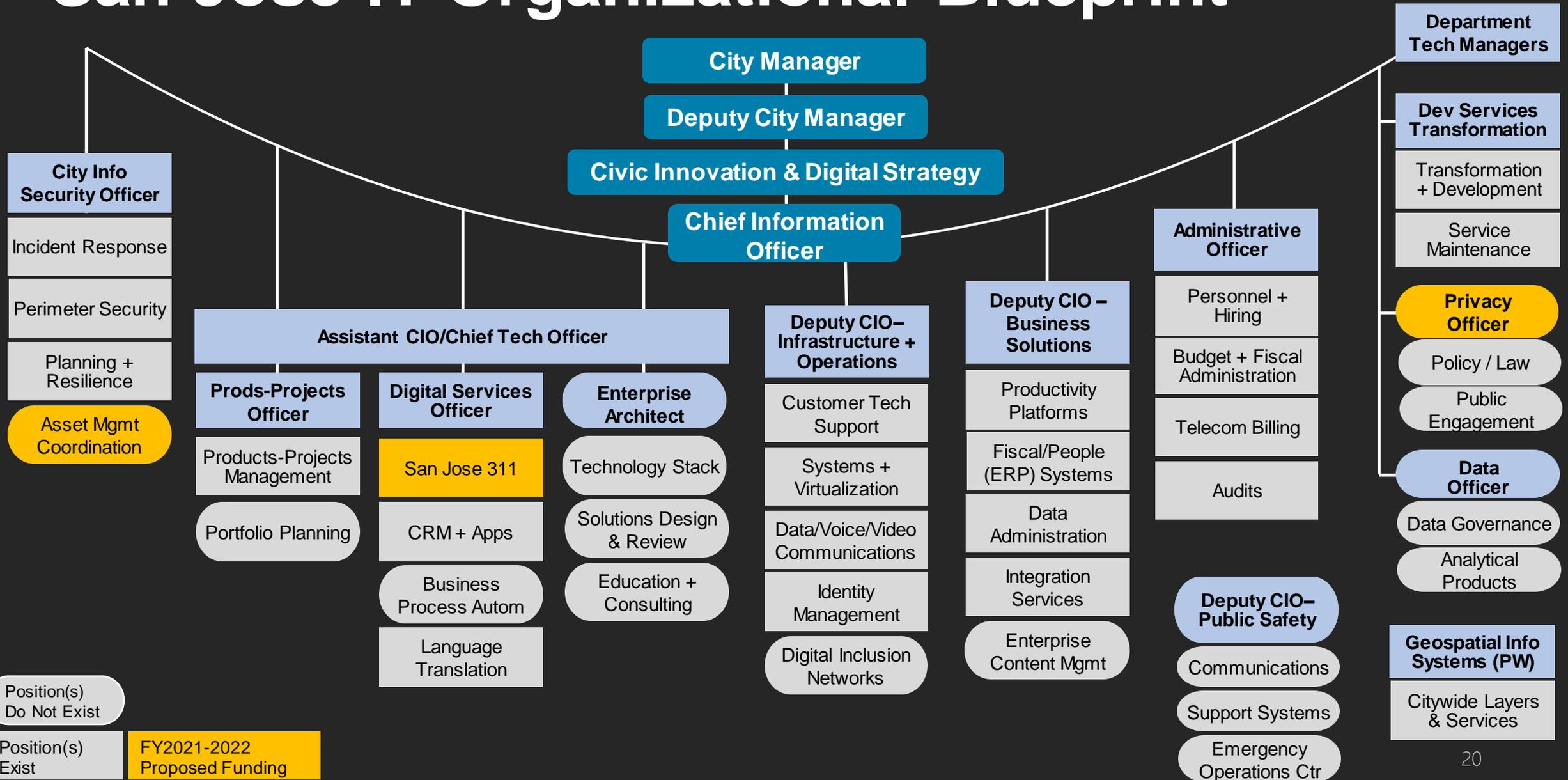| Hardware	Data Analytics	911 Communic	Next-Gen 911	Emergency Ops Centre

- Based on San Jose's current limited budget and resourcing, Info-Tech recommends setting up an *emergency services technology office within the current ITS department*

- Multiple cities either already have this model or are implementing this model. Some of such examples include:

  - City of Dallas
  - City of Philadelphia
  - City of Los Angeles
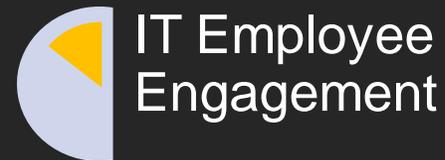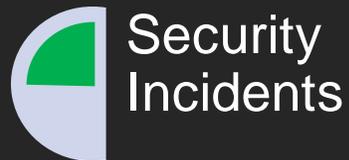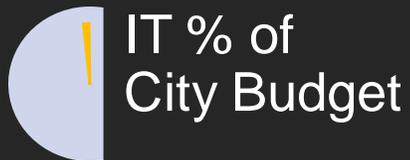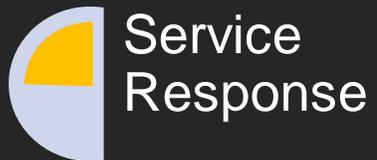
San Jose IT Organizational Blueprint

City Manager

Deputy City Manager

Civic Innovation & Digital Strategy

Chief Information Officer

City Info Security Officer
- Incident Response
- Perimeter Security
- Planning + Resilience
- Asset Mgmt Coordination

Assistant CIO/Chief Tech Officer

Prods-Projects Officer
- Products-Projects Management
- Portfolio Planning

Digital Services Officer
- San Jose 311
- CRM + Apps
- Business Process Autom
- Language Translation

Enterprise Architect
- Technology Stack
- Solutions Design & Review
- Education + Consulting

Deputy CIO– Infrastructure + Operations
- Customer Tech Support
- Systems + Virtualization
- Data/Voice/Video Communications
- Identity Management
- Digital Inclusion Networks

Deputy CIO – Business Solutions
- Productivity Platforms
- Fiscal/People (ERP) Systems
- Data Administration
- Integration Services
- Enterprise Content Mgmt

Administrative Officer
- Personnel + Hiring
- Budget + Fiscal Administration
- Telecom Billing
- Audits

Deputy CIO– Public Safety
- Communications
- Support Systems
- Emergency Operations Ctr

Department Tech Managers

Dev Services Transformation
- Transformation + Development
- Service Maintenance

Privacy Officer
- Policy / Law
- Public Engagement

Data Officer
- Data Governance
- Analytical Products

Geospatial Info Systems (PW)
- Citywide Layers & Services

Position(s) Do Not Exist

Position(s) Exist

FY2021-2022 Proposed Funding

20

Measuring Results

Resident Customer Satisfaction

?% ↗ ≥70%

Internal Customer Satisfaction

91% → ≥85%

Project Success Rate

86% → ~80%

Services Reliability

99.8% ↗ ≥99.9%

Service Response

8AM-5PM ↗ 24x7

IT % of City Budget

~2% ↗ ~3.5%

Security Incidents

↗

IT Employee Engagement

27%ile ↗ ≥50%ile

IT Position Vacancies

17% ↗ 12%
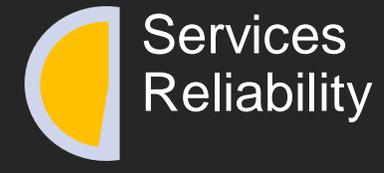
San Jose 1-Page IT Strategic Plan

Mission: San Jose puts powerful tools and information in the hands of people to unleash their brilliance in service to our community.

Strategic Initiatives

1. **Enable Equity** solutions using technology and data to transform City services.
2. **Secure the City** to enable resilient City services against cybersecurity and natural disasters.
3. **Optimize** the City's use of limited resources to maximize efficiencies and innovation.
4. **Power Digital** in the City's workforce, public participation, and collaboration.
5. **Partner to Deliver** City Roadmap priorities with masterful collaboration and procurement.

Strategic Measures

- Equity: Add Resident Satisfaction at Service | Research Access; Reach; Missing
- Effectiveness: Cybersecurity of City + Enterprises | Research Process/Automation Savings

Underlying Assumptions
1. **Need**: Technology demands are core and increasing. City departments expressed IT + Data are key to their success.
2. **Vision**: IT is the strategic multiplier for achieving the City Roadmap and its overarching values.
3. **Priority**: Resource constraints and increasing demands make IT governance an important problem to solve.
4. **Opportunity**: No city has better assets to achieve Equity, Transformation, and Effectiveness through technology.

IT Metrics 2021-2023

Customer Satisfaction
In: $\geq$85%
Ext: $\geq$70%

Projects Success
~80%

IT Services Reliability
$\geq$99.9%

Employee Engagement
$\geq$50th %ile

IT as % of City Budget
$\geq$3.5%

Information + Technology Advisory Board

Purpose
- Provide insights and connections that help the City of San Jose triangulate and achieve its 2021-2023 IT Strategic Plan.

Members
- Up to eight (8)
- One each from pertinent fields
- Leader with significant strategic-tactical responsibilities
- Only Non-Sales

Sponsors
- Kip Harkness, Deputy City Manager, City of San José
- Rob Lloyd, Chief Information Officer, City of San José

San José City Roadmap | FY 2021-2022 | Approved by Council on March 16, 2021

Enterprise Priority — Project — Strategy — Policy

| Enterprise Priority	Project						Strategy		Policy
COVID-19 Pandemic: Community + Economic Recovery	*Housing Stabilization*	Re-Employment + Workforce Development	Small Business Recovery	*Food + Necessities Distribution*	*Digital Equity*	Child Care Learning Pods			*Build Back Better + Recovery Taskforce*
Emergency Management + Preparedness	Vaccination Taskforce								Soft-Story Building Earthquake Retrofit Policy
Creating Housing + Preventing Homelessness	Emergency Housing Construction + Operation	Sheltering + Enhanced Encampment Services					North San José Strategy		Encampment Management + Safe Relocation Policy
Safe, Vibrant, + Inclusive Neighborhoods + Public Life	Police Reforms Work Plan	*San José 311 + Service Delivery*	*Encampment Waste Pick-Up BeautifySJ*	*Vision Zero Traffic Safety*			Equity Strategy Development	Neighborhood Services Access Strategy	
Building the San José of Tomorrow with a Downtown for Everyone	Align Zoning with General Plan	*Development Service Transformation*	Google Development	Major Real Estate Development Projects			BART + High-Speed Rail Strategy		
Smart, Sustainable, + Reliable City: 21st Century Infrastructure	Pavement, Fire, EOC, Transit Capital Improvements	*Regional Wastewater Facility Capital Improvements*	Electrical Service for Major Development	Climate Smart American Cities Climate Challenge			Lowering PG&E Above Market Costs for Clean Energy		

Enterprise Priority Foundational — Project — Strategy — Policy

Enterprise Priority Foundational	Project				Strategy		Policy
Strategic Fiscal Positioning + Resource Deployment	Federal + State Recovery Advocacy	*Secure City Cybersecurity*	*Procurement Improvement*	Pension Obligation Bond Analysis	Budgeting for Equity	*City Roadmap Budgeting, Accountability, + Performance*	
Powered by People	*Continuity of City Services*	Safe Workplace	Employee Health + Wellness	*Drive to Digital*	*Effective Teams*	City Workforce Diversity + Skill Building		

Priority — Higher ● ○ Lower | Higher ● ○ Lower | Higher ● ● ○ Lower

Technology should be about Community...
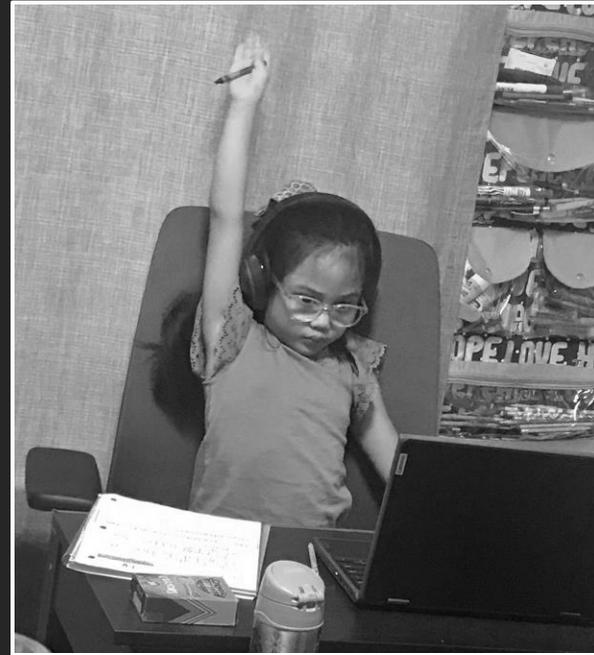
Questions & Feedback
Accept & Refer to City Council