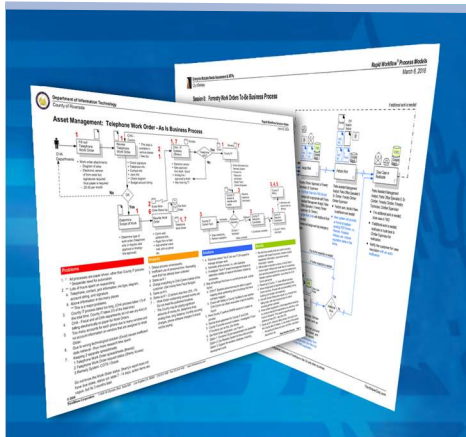


Rapid Workflow[®]

Problems, Impacts,
Solutions. Benefits



CITY OF LONGBEACH

TID28: IT Strategic Roadmap

Final TID28

April 3, 2025

37
YEARS

Thought Leadership, Exceptional
Performance & Results since 1987



ThirdWave Corporation
Information Systems Intelligently Applied
12100 Wilshire Blvd. Suite 800
Los Angeles, CA 90025
www.ThirdWaveCorp.com
310.804.7565



Contents

Preface	P1
Executive Summary	1
E 1 TID28	1
E 2 City of Long Beach Background Information	2
E 3 Project Goal & Objectives	2
E 4 Project Approach & Methodology	3
E 5 TID28 Strategic Initiatives	3
E 6 TID28 Benefits	4
Part A TID28 IT Strategic Plan	5
Section 1 Project Overview	6
1.1 Project Background, Goal & Objectives	6
1.2 Key Project Task Findings	7
1.2.1 TID Focus Groups	7
Figure 1.2.1.1: IT Focus Group Challenge Dashboard	7
Figure 1.2.1.2: Overall Summary of IT Department Challenges	8
1.2.2 Management Interviews	8
1.2.2.1 Importance of Emerging Technologies	8
Figure 1.2.2.1.1: Emerging Technologies	9
1.2.2.2 TID Support & Services	10
Figure 1.2.2.2.1: IT Organizational Knowledge, Skills & Abilities	10
1.2.3 City Staff Online Survey	11
Figure 1.2.3.1: Overall Condition of City Information Technologies	11
Figure 1.2.3.2: Level of Satisfaction with TID Services	12
1.2.4 Benchmarked Cities	13
Figure 1.2.4.1: City Populations	13
Figure 1.2.4.2: City Organizations	13
Figure 1.2.4.3: IT Organizations	14
Figure 1.2.4.4: City Staff Supported Per IT Staff Member	14
Figure 1.2.4.5: Enterprise Applications Supported per IT Staff Member	15
Figure 1.2.4.6: Support Tickets Per Month	15
Figure 2.1.4.7: Number of Endpoints Managed	16
Figure 2.1.4.8: Virtualized Servers & Cloud Installations	16
1.2.5 Community Outreach	17
1.2.5.1 Community Outreach Survey	17
1.2.5.2 Community Outreach Workshops	18
1.3 Requirements Definition	21
Figure 1.3.1: Sample Enterprise Initiative Matrix	21
Figure 1.3.2: Infrastructure & Hardware Requirements	22
Figure 1.3.3: Department & Enterprise Software Requirements	23
Figure 1.3.4: Integration & Web Initiatives	24
Figure 1.3.5: Operational Policies & Process Improvements	25
Figure 1.3.6: Management Policies & Process Improvements	26

	Figure 1.3.7: TID28 Technology Initiatives (Not Prioritized)	27
1.4	Prioritization Criteria	28
	Figure 1.4.1: TID28 Implementation Roadmap Initiative Prioritization Criteria	29
1.5	TID Leadership Initiative Shortlisting	30
	Figure 1.5.1: Prioritized TID28 Implementation Roadmap Initiatives	30
	Figure 1.5.2: Initiatives by Year and Type	32
Section 2	TID28 Initiatives	33
2.1	Introduction to TID28 Recommendations	33
2.1.1	TID28 Vision, Principles, and Implementation Values	34
2.2	TID28 Implementation Roadmap Initiatives	35
2.2.1	Existing TID Efforts	35
2.2.2	TID28 Interventions	35
2.3	Technology Initiatives	37
INF	Infrastructure	37
INF 1	Develop Wi-Fi Infrastructure Plan and Standards	37
INF 2	Modernize Cloud-based Phone Systems	38
INF 3	Strengthen Cybersecurity Program, Tools & Training	39
INF 4	Security Cameras Inventory and Update Plan	40
INF 5	Rebuild and Harden City Cisco Switches & Routers Network Equipment	41
HW	Hardware: Servers, Workstations, Peripherals	42
HW 1	Accelerate Replacement of Outdated Computers	42
HW 2	Accelerate Cloud Based Computing	44
HW 3	Adopt Mobile Device Replacement Cycle	45
D SW	Department Software	46
D SW 1	Software Discovery and Product Roadmaps for Key Systems	46
D SW 2	Improve Spark User Experience for All	48
D SW 3	Implement Mobile Device Management Software	50
D SW 4	Conduct an IT Asset Inventory	51
E SW	Enterprise Software	52
E SW 1	Enhance Human Resource Management System	52
E SW 2	Develop Standard Project Planning & Management Practices and Methodologies	54
Web	Website/Web Service Delivery	55
W 1	Enhance City Website and Public Digital Offerings	55
2.4	Operational Recommendations	57
O 1	Improve Help Desk Documentation, Training, and Customer Satisfaction	57
O 2	Expand Security Monitoring and Incident Response Capacity	59
O 3	Improve Usability of Internal Services Fund MOU	60
O 4	Establish Workstation OS Practice. Support End User Applications	61
O 5	Document Processes and Services and Establish KPIs and SLAs	62

	O 6	Develop an Enhanced Data Protection Policy	63
	O 7	Enhance Business Continuity Plan	64
	O 8	Implement Critical Needs 2.0 Technology	65
2.5	Management Recommendations		67
	M 1	Conduct Inventory of City Staff Training Needs	67
	M 2	Develop a Strategic Plan for Hiring	69
	M 3	Establish PMO and Project Management Standards	71
	M 4	Establish Modern TID Staff Training Standards	73
	M 5	Adopt a Formal IT Governance Process	75
	M 6	Formalize Technology Purchasing Practices	77
	M 7	Assess Employee Lifecycle Management Needs	78
	M 8	Establish Data Governance Framework	80
Part B:	TID28 Implementation Roadmap		82
Section 3	Introduction		83
	3.1	Introduction to the TID28 Implementation Roadmap	83
	3.2	TID28 Roadmap Framework	84
	3.3	TID28 Roadmap Objectives	84
Section 4	Budget Estimate		85
	4.1	Budget Overview	85
	4.2	TID28 Initiative Investment	86
		Figure 4.2.1: TID28 Implementation Roadmap 4-Year Estimated Investment	87
		Budget Footnotes	88
	4.3	IT Organization Resource Investment	90
		Figure 4.3.1: TID Resources Requirements	90
		Figure 4.3.2: TID Staff Resource Costs & Responsibilities	91
		Figure 2.3.3: TID Resource Investment	91
		Figure 2.3.4: TID28 Initiative & Resource Investment Summary	91
Section 5	4-Year TID28 Roadmap		92
	5.1	TID28 Roadmap Implementation Principles	92
	5.2	4-Year TID28 Implementation Timeline	92
		Figure 5.2.1: Implementation Roadmap	94
		Implementation Timeline Footnotes	95
Section 6	City & Customer Benefits		98
	6.1	TID28 Benefits	98
		Figure 6.1: Summary of Potential Citywide & Community Benefits	99
Section 7	Closing Recommendation		102
	7.1	Adoption & Funding	102
Section 8	Appendix		101
	8.1	TID Existing Projects	103
		Figure 8.1.1: Existing TID Projects	103



8.2 Glossary of Terms 108

Preface



The City of Long Beach TID28 Information Technology Strategic Plan & Roadmap (TID28) is the result of a comprehensive and thorough assessment of the City's existing technologies, operational requirements and service delivery needs to the community. This document reflects a strategy that is technologically strategic, operationally responsive, and fiscally responsible. It addresses the unique requirements of mission-critical business needs of Long Beach constituents, visitors, and business community.



TID28 is the product of a collaborative effort with City management and staff who made valuable contributions throughout the project. A focus was placed on addressing management, operational and technology challenges that could be mitigated with strategic investments in proven and emerging technologies. ThirdWave observed numerous strengths at the City including the following:

- Under the direction of the City Manager and the leadership of the CIO, the execution of TID28 is a healthy indicator of the desire to intelligently plan the City's future use of emerging technologies.
- City staff have a strong level of professionalism, with a conscientious commitment to delivering exemplary services to the residents, businesses and tourists of Long Beach.
- The level of engagement on the Online Staff Survey. Four hundred-eighty-one (481) City staff responded to the survey, an outstanding response. City staff provided significant amounts of feedback in their written comments throughout the survey, providing considerable and valuable insights into end-user requirements.
- The TID management and the City's leadership team are highly committed to making the fullest use of automation, to provide the residents of Long Beach extraordinary services. TID Bureau managers were active participants in the project.

April 3, 2025

- The City has implemented a substantial number of large-scale Information Technologies, while a number of foundational TID needs have taken a back seat, e.g., filling open positions, articulating operational procedures, and optimizing the organization's intersection of TID, City Departments and residents.

TID28 focuses on improving the status quo and articulating a path for the City's continuing evolution as an exceptional City; it is comprised of two parts

- **Part A: TID28 Recommendations**, providing actionable recommendations and outcomes for a comprehensive set of possible management, business process improvement, and Information Technology initiatives.
- **Part B: TID28 4-Year Implementation Roadmap**, providing the final proposed and prioritized Information Technology initiatives, budget estimates, 4-year timeline, and enterprise benefits of adopting and finding TID28.

The challenge of adopting, funding and implementing an IT Strategic Plan is a formidable one. However, given its 4-year timeline, there is latitude to execute the technology initiatives identified in TID28, which is a living document that should be reviewed and adjusted on a yearly basis. TID28 provides opportunities for new, more efficient ways of providing services. The purpose of the plan is to ensure investments in strategic business technologies are sound and deliver the highest possible value to the City and its constituents. This document provides a wealth of data that can be leveraged over the next four years, and beyond, to facilitate excellence in municipal services, civic participation, and community well-being.

Special thanks to the City Manager, Tom Modica and Lea D. Eriksen, Director/CIO, TID Bureau Managers, City Department Heads, and the City's professional staff for their engagement and valuable input. This project could not have been realized without their close collaboration.

Respectfully,



Roy R. Hernández
Founder, President & CEO
ThirdWave Corporation

Executive Summary



E 1 TID28

This document provides a four-year IT strategic plan custom-tailored to the City of Long Beach.

Informed by the unique organizational and operational needs of the City, and input from the residents and business community, TID28 offers a technologically sound vision focusing on Strategic Business Technologies responsive to the challenges and opportunities that exist at the City.

TID28 will accomplish the following:

“TID28 will guide and prioritize the Technology and Innovation Department’s technology investments to align with the needs of Long Beach residents, businesses, and City staff.”

The adoption and implementation of the TID28 will leverage effective investment in Information Technologies, while at the same time supporting the City’s mission-critical services.



E 2 City of Long Beach Background Information

Long Beach is a coastal city in southeastern Los Angeles County. With a population of 451,307 as of 2022, Long Beach is the seventh-most populous city in California, the second most populous city in Los Angeles County, and the largest city in California that is not a county seat.

Incorporated in 1897, Long Beach is approximately 20 miles south of downtown Los Angeles, and is part of the Gateway Cities region. The Port of Long Beach is the second busiest container port in the United States and is among the world's largest shipping ports.



The City is known for its waterfront attractions, including the permanently docked RMS Queen Mary and the Aquarium of the Pacific. Long Beach also hosts the Grand Prix of Long Beach, an IndyCar race and the Long Beach Pride Festival and Parade. California State University, Long Beach, one of the largest universities in California by enrollment, is within the City.

E 3 Project Goal & Objectives

The City of Long Beach Technology & Innovation Department (TID) seeks to create a short-term IT Strategic Plan (TID28") that articulates a clear and achievable vision, principles, strategic focus, and implementation roadmap for TID to have in place by the Summer 2028 to achieve the City's 2030 Strategic Vision. The City is committed to providing easy-to-use services online, anytime, and anywhere to greatly enhance residents', businesses', and visitors' experience with the City.



This approach will build and protect the communities' trust in the City, provide the City with data for service improvement, and improve equitable access to technology for Long Beach's diverse communities. Specific objectives are to:

- Connect technology resources, innovation, and initiatives to the City's core values and mission-critical services.
- Serve as an effective framework for how IT services are delivered throughout the City; and
- Define a clear set of goals, guiding principles, and strategic priorities for accomplishing the City's TID28, principles and implementation roadmap.

TID28 represents the results of a comprehensive City-wide assessment of the City's IT needs. It provides a high-level technical specification for approximately thirty-one (31) Information Technology initiatives, including a compelling business case. Consequently, this is a sizable document.

This document is structured to provide sufficient details for each actionable recommendation, to the extent that the content could be used to develop numerous Request for Proposal/solicitation documents over the next four years. In other words, this is a technical reference volume, not a document meant to be read in one sitting.

E 4 Project Approach & Methodology

The TID28 project employed a comprehensive and structured best-practice methodology. It applies ThirdWave's patented data-driven method, which collects and synthesizes various types of information, including:

- Reviewed documentation on existing and planned Information Technology initiatives
- TID Organization Workshop with TID Leadership
- TID Staff Focus Groups to assess infrastructure, hardware, software and IT organization
- Research Best Practices, including benchmarking against peer municipalities of Fresno, Sacramento, and Virginia Beach
- Management Interviews across all City departments
- Online Staff Survey, to allow all City staff the opportunity to provide input
- Online Community Survey, for residents, businesses and visitors
- Community Workshops to engage residents in discussion of digital equity

E 5 TID28 Strategic Initiatives

The TID28 project identified numerous opportunities for business process improvement, increased operational efficiencies, and enhanced service delivery to Long Beach residents and business community. A summary of key recommendations is provided below.

	Year 1 Initiatives		Year 2 Initiatives
1	Implement Critical Needs 2.0 Technology	13	Improve Usability of Internal Services FUND MOU
2	Conduct an IT Asset Inventory	14	Develop Wi-Fi Infrastructure Plan and Standards
3	Accelerate Replacement of Outdated Computers	15	Rebuild/Harden Cisco Switches & Routers Network Equipment
4	Develop a Strategic Plan for Hiring	16	Improve Spark User Experience for All
5	Adopt a Formal IT Governance Process	17	Establish Project Management Office/Project Management Stds.
6	Modernize Cloud-based Phone Systems	18	Develop Sd. Project Planning/Management Practice
7	Strengthen Cybersecurity Program, Tools, and Training	19	Develop an Enhanced Data Protection Policy
8	Accelerate Cloud Based Computing	20	Assess Employee Lifecycle Management Needs
9	Implement Mobile Device Management Software	21	Adopt Mobile Device Replacement Cycle
10	Enhance City Website and Public Digital Offerings		

11	Establish Workstation OS Practice, Support End User		
12	Improve Help Desk Documentation, Training, Customer Satisf.		
Year 3 Initiatives		Year 4 Initiatives	
22	Establish Data Governance Framework	28	Document Processes/Services, Establish KPIs and SLAs
23	Conduct Software Discovery, Initiate Product Roadmaps	29	Enhance Business Continuity Plan
24	Expand Security Monitoring and Incident Response Capacity	30	Conduct Inventory of City Staff Training needs
25	Formalize Technology Purchasing Practices	31	Establish Modern TID Staff Training Standards
26	Security Cameras Inventory and Update Plan		
27	Enhance Human Resource Management System		

6 TID28 Benefits

TID28 identified numerous quantitative and qualitative benefits offering considerable opportunities for enhancing internal TID operations, department performance, and service delivery to the public.

Sixteen (16) different types of general potential benefits were identified throughout the project, each one posing numerous specific city and community benefits:

1. Improved Security and Compliance
2. Project Management & Implementation
3. Increased Operational Efficiency & Performance
4. Cost Savings
5. Improved User Experience
6. Up-to-date Technology & Infrastructure
7. Modernization & Future-Readiness
8. Improved End User Support
9. Enhanced Collaboration & Integration
10. Data Management, Accessibility & Reporting
11. Improved Talent & Collaboration
12. Resource Management & Cost Control
13. Improved Reliability & Supportability
14. Enhanced Public Services
15. Vision & Strategic Alignment
16. Strengthened Risk Management & Contingency Planning



PART A
TID28
IT Strategic Roadmap



Section 1 Project Overview



1.1 Project Background, Goal & Objectives

The goal of TID28 is to identify internal and external technology needs; the role of Information Technology within the IT organization; and responsive technology solutions that will allow the City to provide exemplary services to the Long Beach community. Moreover, the TID28 Roadmap will help guide the City in responsive technology planning, sound investments and system implementations.

TID28 provides a 4-year roadmap employing a highly participatory process directly engaging City departments and staff. TID28 contains actionable recommendations that will guide and shape how the City delivers innovative and effective technology services throughout the organization and to the community at large.



The objectives of the TID28 project are to:

- Define a clear set of goals, guiding principles and strategic priorities for accomplishing the City's objectives defining best practices and actionable recommendations.
- Serve as the framework for how IT services will be delivered to the City with an enterprise focus (instead of in a siloed manner) to integrate existing and new systems to provide business process improvement.
- Provide actionable recommendations and be the guiding document that shapes how the City delivers innovative, unified and effective technology services throughout the organization and to the community.

To this end, the implementation of future business systems and Information Technology projects must be properly prioritized, scheduled and coordinated as part of an enterprise strategy. Implementation of the TID28 Roadmap will help ensure the City’s technological advancement by making logical and sound investments in physical resources (i.e., hardware, software, integrated systems, etc.) and human resources (staff and training).

1.2 Key Project Tasks

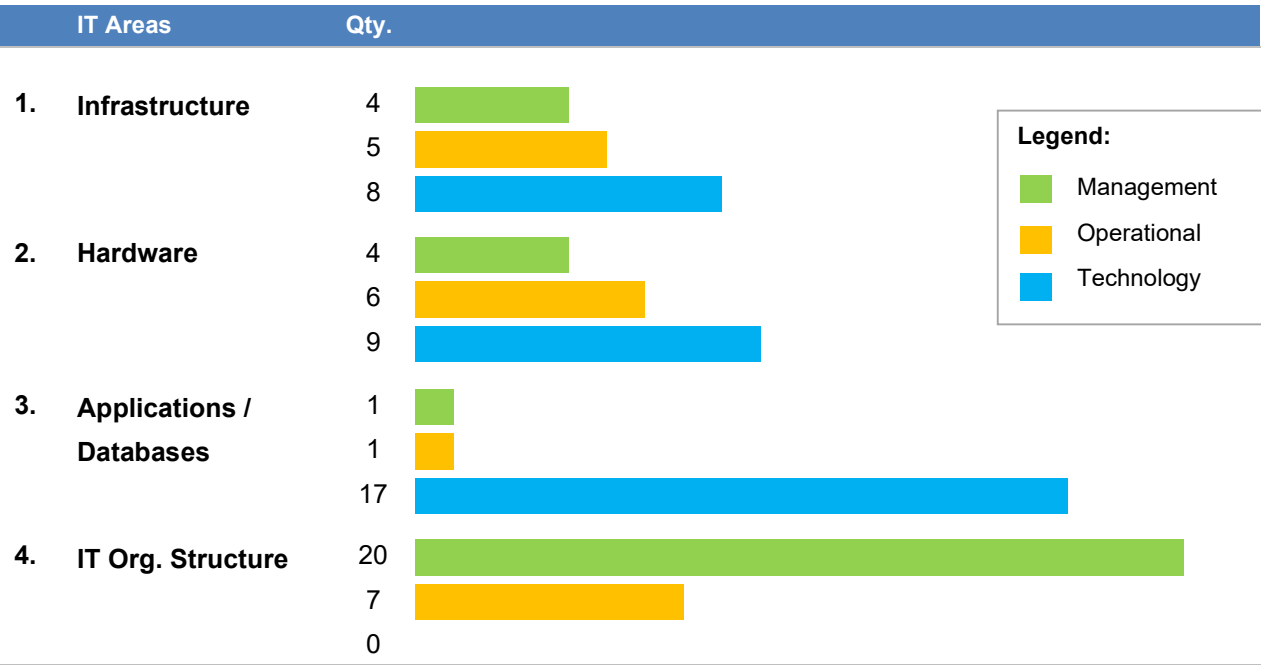
The TID28 projects employ a comprehensive, patented approach relying on the collection, assessment and synthesis of various data sets. Project tasks include a comprehensive assessment of TID and City Department business/services delivery needs as precursors of a responsive TID28, a participatory process to build stakeholder consensus and management support, supported by a compelling business case.

1.2.1 TID Focus Groups

Four IT Focus Groups evaluated the City’s current challenges and solutions in the IT organization, including infrastructure, hardware, applications software/database, and TID operational/service delivery model. Focus groups with appropriate IT management and staff identified existing challenges and solutions. Participants from appropriate sections of TID Bureaus attended their respective workshop. The following figures summarize the findings from the focus groups.



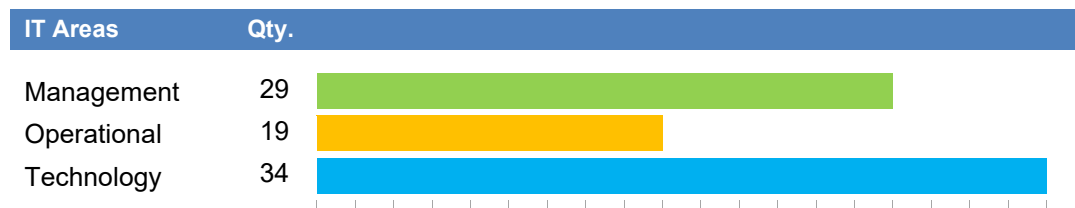
Figure 1.2.1.1: IT Focus Group Challenge Dashboard



The figure above indicates that of the four IT areas addressed, IT organizational issues are the most significant. These include lack of IT Governance, staff resources, end user requirements definition, planning and formal project management standards and practices.

Figure 1.2.1.2 below provides an overall summary of the challenges identified by TID staff. While the compiled instances of management, operational and technology challenges are not weighted, this dashboard provides a general magnitude of existing challenges identified by TID staff.

Figure 1.2.1.2: Overall Summary of IT Department Challenges



The figure above indicates that, overall, the most significant challenges faced by the IT organization relate to a variety of management and technology issues. This data is aligned with other findings in the discovery and requirements definition phases of the project, namely that the existing TID organization has staff resource challenges in how it provides services to City Departments and supports the city's Information Systems.

1.2.2 Management Interviews

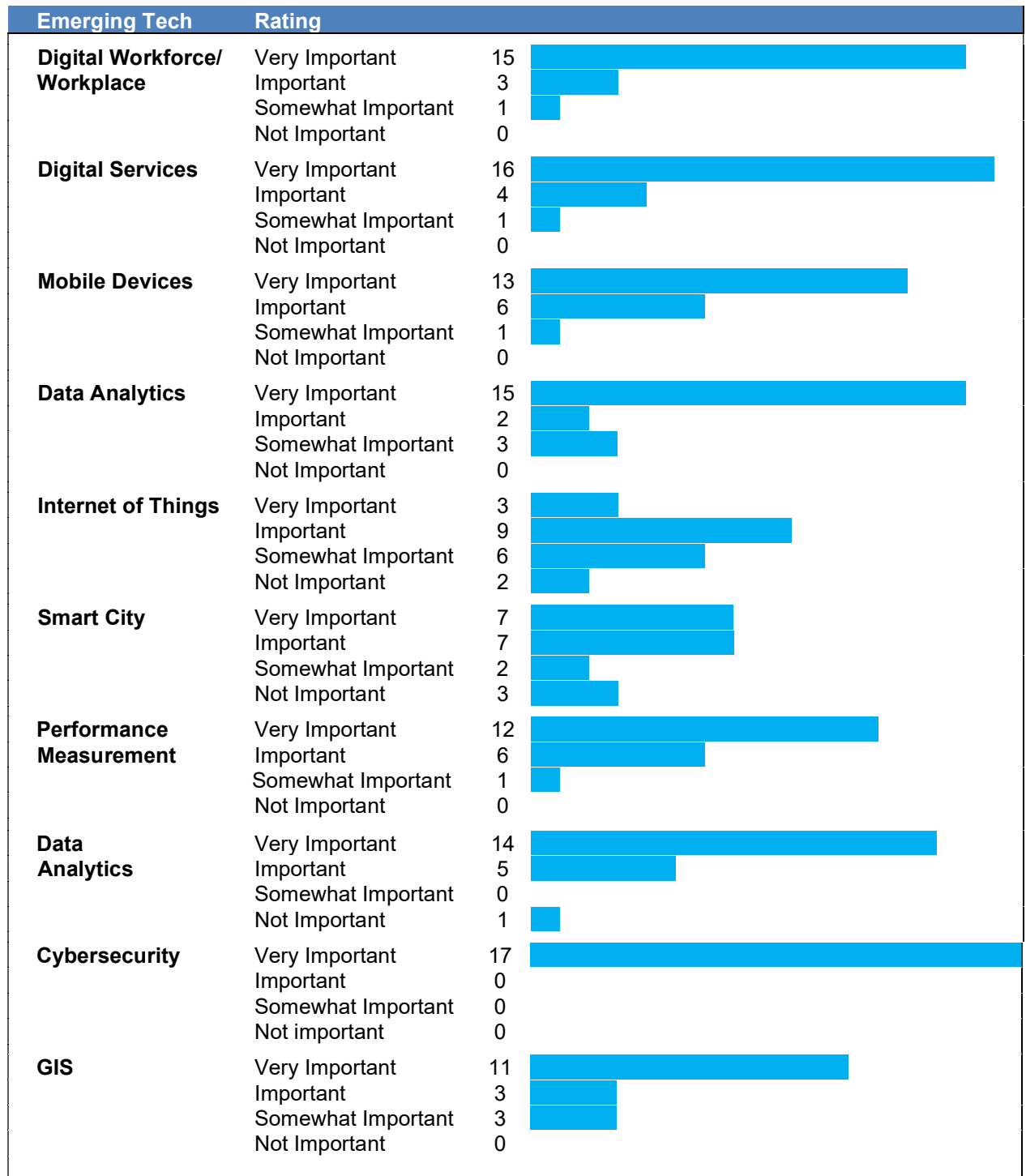
City-wide department business and operational requirements are addressed in 19 30-minute management interviews with the TID and City Department leadership team. Several issues were addressed, including:

- Organizational, operational and/or service delivery challenges in the next 4 years to provide context.
- Information Technology challenges in the next 4 years.
- Relative importance on several emerging technologies.
- Perceptions of the IT organization from a staffing, knowledge and budgeting perspective.



1.2.2.1 Importance of Emerging Technologies

In the management interviews, members of the City's leadership team were asked to rate the relative importance of a number of emerging technologies in the next two – 5 years, according to how important they might be to their department.

Figure 1.2.2.1.1: Emerging Technologies

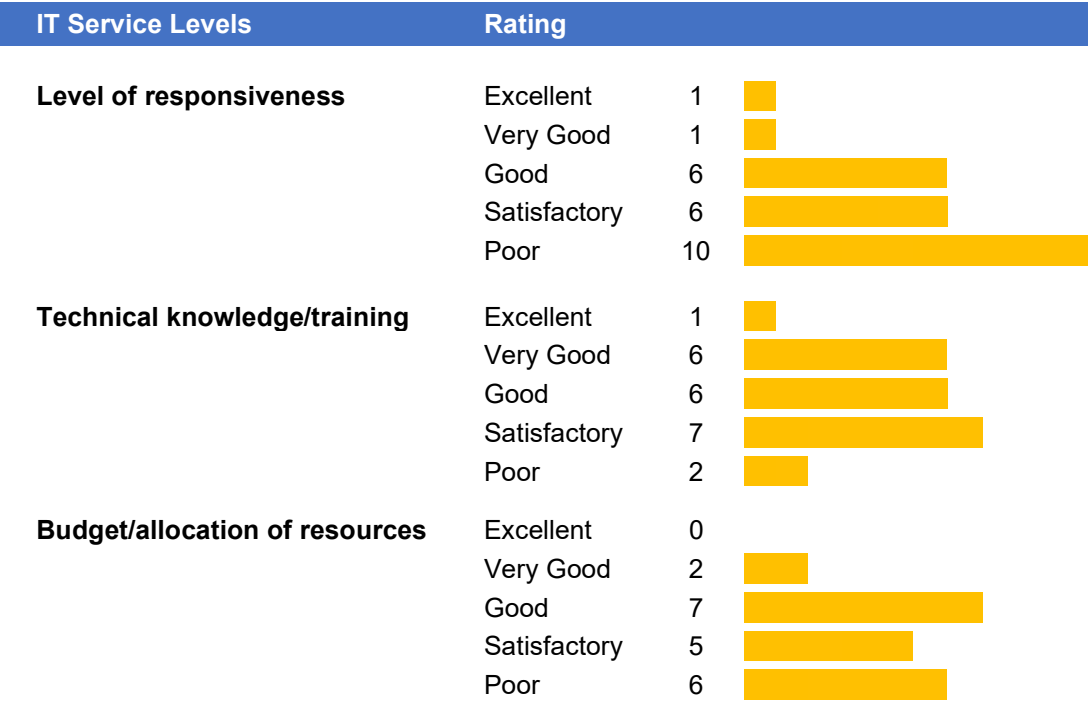
The data clearly indicates that the leadership team places a high level of importance on most emerging technologies. The clear leaders are cybersecurity, digital online services, and digital workforce/workplace.

1.2.2.2 TID Support & Services

The second part of the management interview includes gathering the leadership’s perspective on services provided by TID. The figure below illustrates the management team’s ratings based on the following measurements:

- **Level of responsiveness:** Demonstrated by TID’s level of responsiveness and ability to deliver projects/services in a timely manner.
- **Adequateness of technical knowledge, skills and abilities:** Gauged on whether TID staff seem to have the expertise to get the job done and/or resolve technical issues.
- **Adequate investment in IT:** Measured on the City’s investment in contemporary technology and/or TID staff resources.

Figure 1.2.2.2.1: IT Organizational Knowledge, Skills & Abilities



The rating of responsiveness was primarily Poor (42%) and generally at the lower end of the spectrum. With regards to the Adequateness of technical knowledge or training, the ratings reflect a bell curve, with most ratings reflecting Very Good (27.3%), Good (27.3%) and Satisfactory (31,8%). Regarding the Adequateness of IT budget and allocation of resources, the city’s management rates this item at the lower end of the spectrum: Good (35.8%), Satisfactory (25%), and Poor (30%). These ratings were reflected in the online staff survey, and TID Focus Groups.

1.2.3 City Staff Online Survey

An online survey provides all Long Beach City staff the opportunity to provide input on the City's existing systems and TID's ability to support them. Four hundred-eighty-one (**481**) City staff responded to questions about the City's technology systems and services.

A summary of findings is provided below.

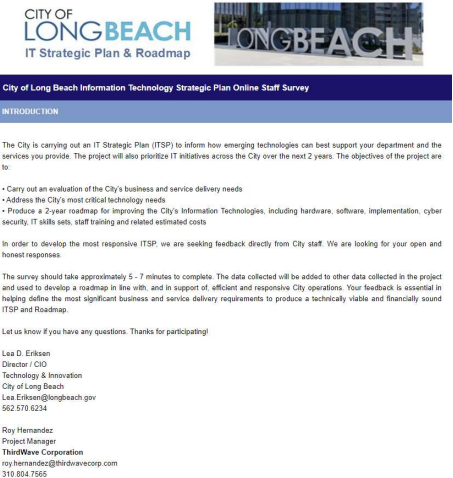
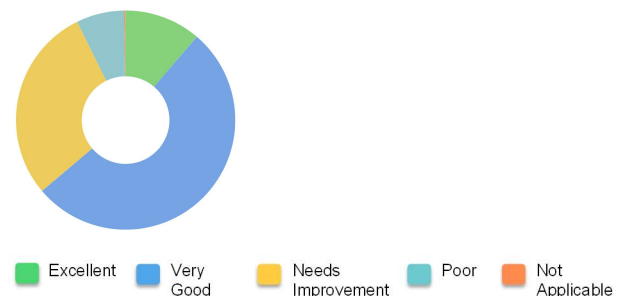
- Most staff rated the overall condition City's IT as Good (52.60%). The second highest rating was Needs Improvement (28.90%). The overall rating of Excellent/Good is 63.83%.
- Existing hardware/computer peripherals were rated the highest, Wi-Fi connectivity at city facilities was rated the lowest.
- Regarding TID services, staff rated Collaboration & Communication the highest, followed by Help Desk. Electronic forms/workflow was rated the lowest.
- Regarding enterprise applications, Microsoft/Office 365 was rated the highest. Human Resources/Payroll and Technology Service Management has the lowest ratings.
- Regarding staff satisfaction engaging in software systems specific to their department, the majority answered Good (19.75%), followed by Needs Improvement (13.51%).
- Application Software was rated as needing the Most Improvement, 30.56%, followed by Networks (Wired/Wireless), 28.70%, and Hardware: Servers, PCs, Output Devices, 26.40%.

The figure below illustrates the overall ranking of IT systems by City staff.

Figure 1.2.3.1: Overall Condition of City Information Technologies

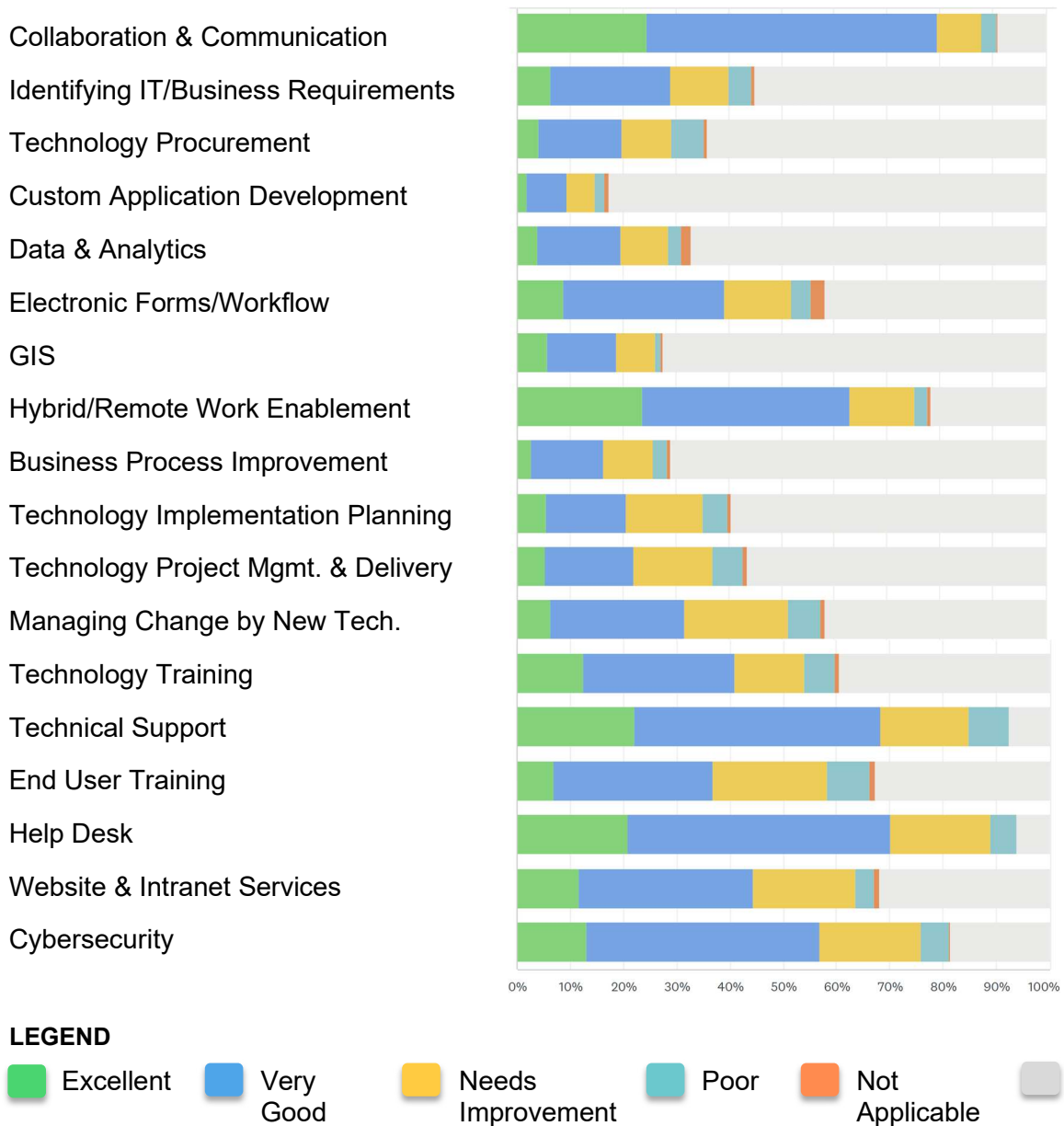
Answer Choices	Responses	%
Excellent	54	11.23%
Good	253	52.60%
Needs improvement	139	28.90%
Poor	34	7.07%
NA	1	0.21%

481



The figure below illustrates overall satisfaction with the services provided by TID.

Figure 1.2.3.2: Level of Satisfaction with TID Services



The survey data clearly shows TID staff rated highly in Collaboration/Communication, Technical Support and Help Desk. Service delivery areas identified as needing the most improvement include Business Process Improvement, Technology Procurement, Technology Implementation Planning and Project Management.

1.2.4 Benchmarked Cities

The project benchmarked the best practice of three other comparable cities in terms of similar population size, number of employees, and almost identical number of IT technical professional FTEs.

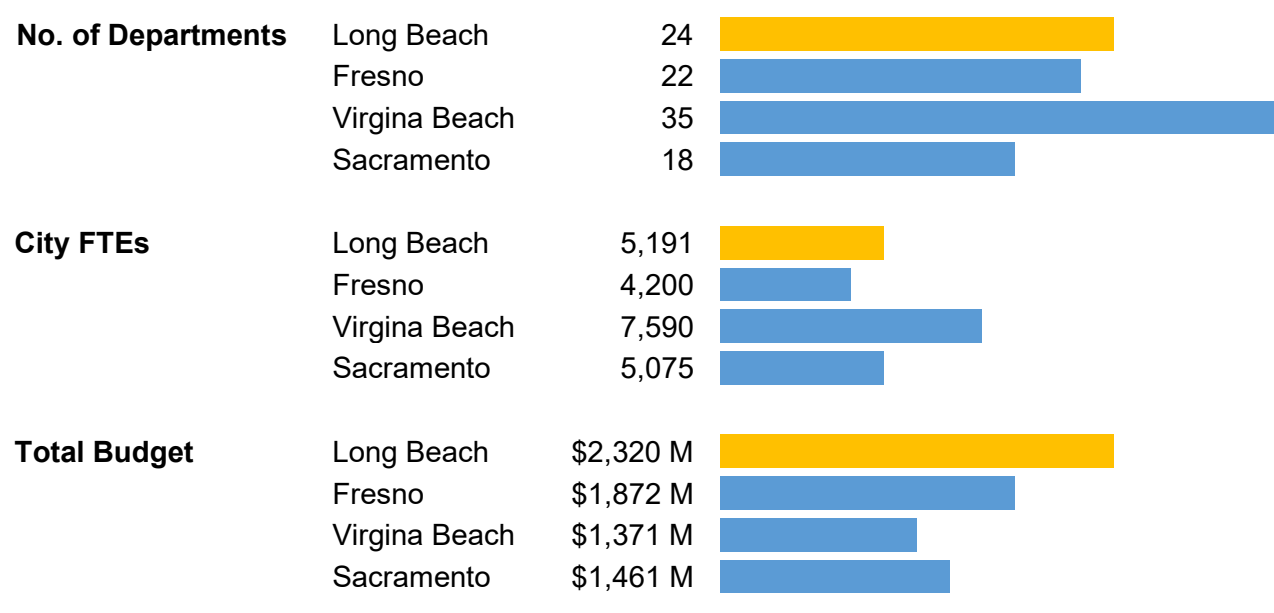
The cities include the city of Fresno, Virginia Beach, VA, and Sacramento. All respective IT organizations in the benchmarked cities are award-winning groups recognized for their technology thought leadership and innovation. Virginia Beach is also a port city.



Figure 1.2.4.1: City Populations

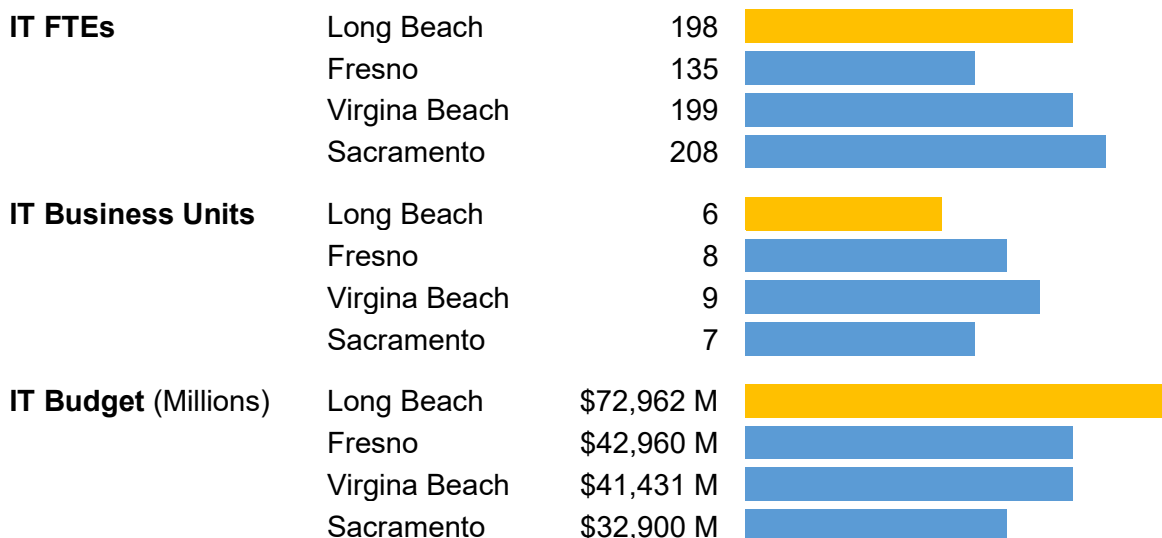


Figure 1.2.4.2: City Organizations



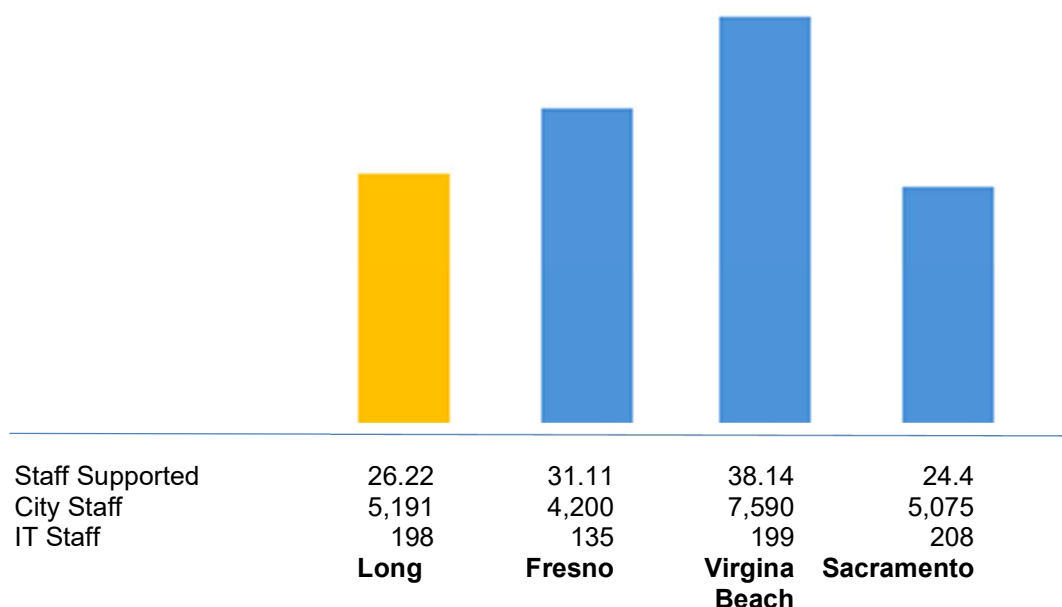
The data below reveal the City of Long Beach has a similar number of staff, and approximately the same number of business units to support. The most notable difference is that Long Beach has the biggest budget.

Figure 1.2.4.3: IT Organizations



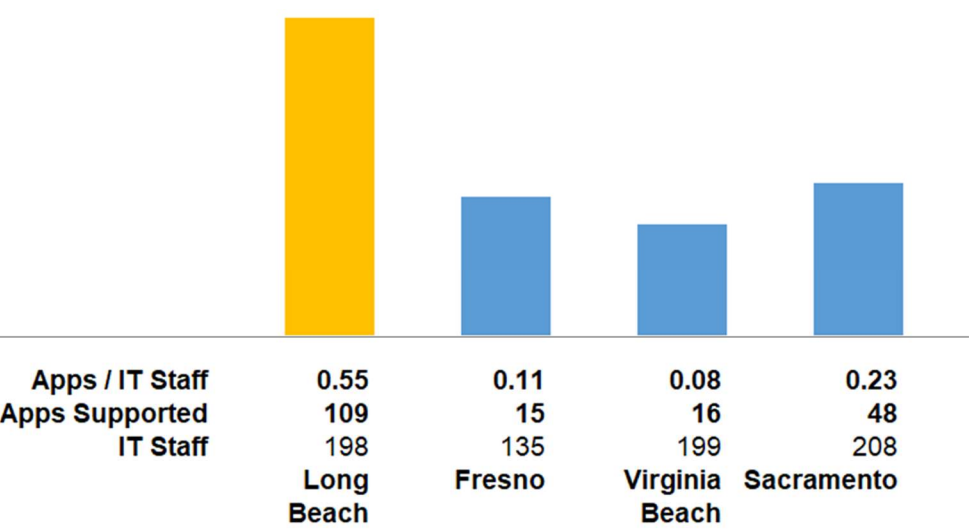
The figure below illustrates city staff supported by IT staff in each city's IT department. The City of Long Beach, like Fresno, is in the middle of the pack.

Figure 1.2.4.4: City Staff Supported per IT Staff Member



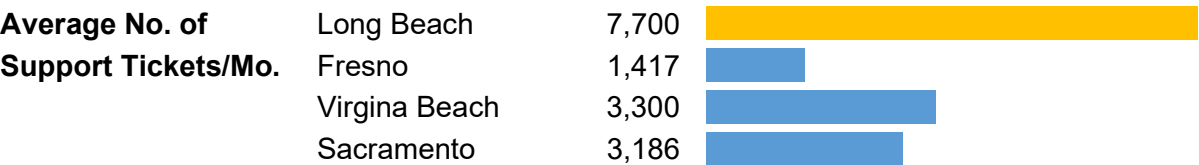
The figure below illustrates the average number of enterprise applications supported per city IT staff. **The City of Long Beach is supporting 2 to 5 times as many applications as the other benchmarked cities.** Without the benefit of a detailed application inventory and analysis across all cities, it is difficult to speculate on the reason for this disparity. Notwithstanding this, it is clear Long Beach TID staff have a significantly higher level of workload supporting enterprise applications than the other cities.

Figure 1.2.4.5: Enterprise Applications Supported per IT Staff Member



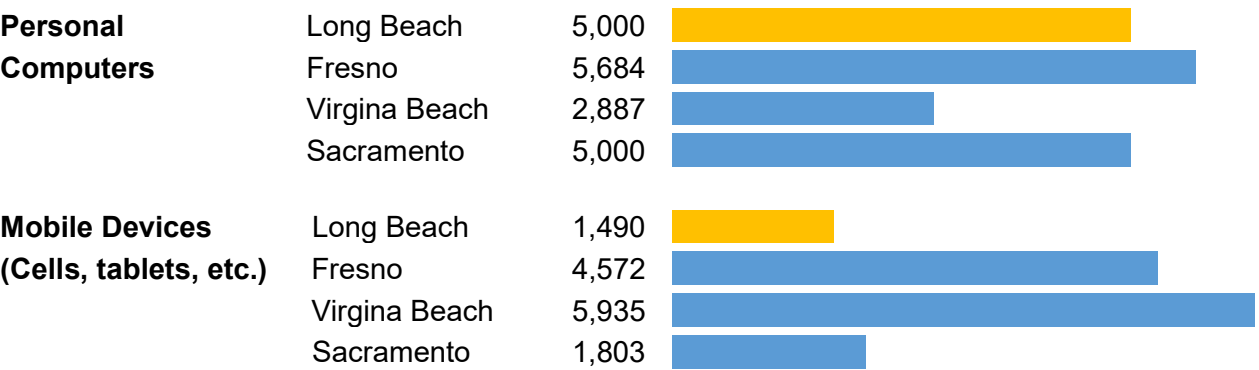
The figure below illustrates the number of support tickets per month. **The City of Long Beach is processing 2.5 to 5 times as many tickets as the other benchmarked cities.** The City of Long Beach TID staff have a significantly higher level of Help Desk traffic, and notwithstanding this, they rated very high in the area in the online staff survey.

Figure 1.2.4.6: Support Tickets Per Month







The number of desktop endpoints managed are close, 5,000 +/- across all cities except Virginia Beach, which has 33% fewer desktops. The most significant difference is the number of mobile devices used by each city. The use of mobile devices at Long Beach is significantly lower than Fresno and Sacramento, indicating a much lower level of staff mobile computing. This is significant as ThirdWave studies show cell phones are how most community members access city information and services today.

Figure 2.1.4.7: Number of Endpoints Managed



The use of virtualized devices is evenly split amongst the benchmarked cities. A clear difference between the City of Long Beach and the other cities is the use of the cloud. The data illustrates the trend and benefits of hosted applications notwithstanding, cities are still hosting their applications on premises.

Figure 2.1.4.8: Virtualized Servers & Cloud Installations

	Long Beach		Fresno		Virginia Beach		Sacramento	
	Y	N	Y	N	Y	N	Y	N
Do you leverage virtual devices?								
% of application in the Cloud?	40%		3%		20%		25-30%	

1.2.5 Community Outreach

1.2.5.1 Community Outreach Survey

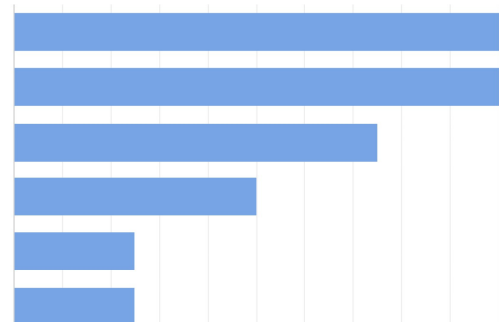
The following pages provide responses from the Long Beach business and resident community stakeholders. This includes:

- Input on the use of website services
- Methods of accessing city services
- Digital equity, inclusion and technology
- Digital services used by tourists
- Business most frequented



The following provide a summary of findings:

- When stakeholders were asked to pick the top City website services they use the most often, the top three were: Online Bill Pay, Business Licensing and Mayor and Council.
- When asked what the preferred methods are for accessing city services the top three were: Email, and the following three were tied: City Mobile App, City Website and Social Media.
- When asked which category of Digital Equity, Inclusion & Technology are most important the first six were rated equally as important:
 - Free and low-cost high speed quality broadband internet services
 - Free and safe high-speed public Wi-Fi services
 - Job preparedness resources to develop or enhance technology skills for job opportunities
 - Emerging smart tech addressing community challenges and needs co-created with community
 - City technology improvements to prevent hacking and cyberattacks that could disrupt city services
 - Data privacy, transparency, digital ethics, and data security standards
- When asked what digital services are used for tourism, the top three were Attractions, Calendar of Events and Travel Resources:
 - Attractions
 - Calendar of Events
 - Travel Resources
 - Neighborhood Business District Info
 - Parking Information
 - Parks & Recreation Information



1.2.5.2 Community Outreach Workshops

In collaboration with the Technology & Innovation Commission, TID hosted two in-person community workshops with the objectives to build and protect our communities' trust in the City, provide the City with data for technology service improvement, and improve equitable access to technology for Long Beach's diverse communities. The following communications tools and methods support TID's efforts to promote the survey and share workshop details with Long Beach residents:

- Press release
- Social media posts
- Go Long Beach
- Smart City Initiative
- Economic Development Department
- City Council member newsletter announcements
- Targeted emails to Digital Inclusion partners
- City of Long Beach Neighborhood resource center
- Long Beach Chamber of Commerce
- Bixby Knolls Business Improvement association email lists
- Posters
- Flyer distribution in English, Spanish, Tagalog, and Khmer
- Library distributed flyers to key libraries and featured information on Library Computers
- Partnered with Long Beach Unified School District to share information with parents at 72 schools; targeted in-person outreach at Houghton Park Community Center, and Bixby Knolls and Fourth Street business districts



The community workshops were designed to be a warm, inclusive, and engaging space for residents and business owners to share their thoughts and provide feedback on City technology services. Participants were provided with free beverages, dinner, snacks, and door prizes. Residents had access to language translation services and ADA accommodations, emphasizing our commitment to inclusivity and ensuring everyone's voice is heard.

The following metrics illustrate the level of engagement for the community workshops.

- Total Workshop community participants: 32
- Additional surveys completed at workshops: 19
- Workshop Demographics
- Race:
 - 40% identified as Hispanic / Latinx
 - 26% identified as Black / African American
 - 25% identified as White
 - 14% identified as Asian / Pacific Islander
 - 5% identified as Native American / Indigenous

Community Workshop #1 Findings

Community members had the most experience using the City website's Online Bill Pay service. However, Community members expressed significant challenges with the usability of the application to identify how to get assistance when needed and unable to speak to a "real" person regarding data issues with inaccurate bills and unknown fees. Community members recommend the following for Online Bill Pay:

- Provide a course on how to use the city website and services offered to the community
- Ability to connect with a live person when in need of assistance
- Options for older community members that do not have internet access
- Increased security like two-step authentication
- Incentivize community members to enroll in online bill pay by offering discounts
- Bill Pay Text reminders
- Ability to pay bill via text link
- Streamline the process and make the app easier to use

Additional Questions & Discussion

Community members feel it is very important for the City's website to provide online services. As a result, community members recommend the following:

- Continue online services
- Promote the online services offered to the community
- Enhance online services and make them user friendly
- Email is a viable mode of communication and should be included when communicating with the Community

Community Workshop #2 Findings

Community members had the most experience using the City Calendar service. They appreciated the clear event listings, easy navigation, and mobile-friendly interface. The multi-view access options and integration with personal calendars were particularly praised. However, they faced challenges such as missing event types, clunky filters, and incomplete event information. Based on their feedback, the following recommendations are made:

1. Enhance Event Listings:
 - Include past events for reference.
 - Ensure all event types, such as music festivals and recreation events/classes, are listed comprehensively.
 - Provide more detailed and accurate event information to reduce the need to check multiple calendars.
2. Improve Filter Options:
 - Simplify and enhance the filter functionality to make it more user-friendly.
 - Add more filter options, such as age, location, date range, and price.
3. Link Functionality:
 - Ensure all map icons are correctly linked to relevant events.



4. Physical Brochure/Leaflet:
 - Send out a physical brochure or leaflet calendar to reach non-tech-savvy residents on a subscription basis.
5. Event Submission Utility:
 - Implement a utility that allows residents to submit suggestions for calendar events.
6. Integration with Other Services:
 - Link the City Calendar with other service calendars (e.g., trash, recreation).
 - Integrate the calendar with GoLongBeach 311 for seamless service access.
7. User Preferences:
 - Allow users to set preferences to avoid repeating the filtering process for frequently sought event types.
8. Day of the Week Display:
 - Display the day of the week next to the date for better clarity.
9. Social Media and External Events:
 - Continue using social media to promote events and include external websites' events.

Additional Questions & Discussion:

Community members emphasized the importance of having a comprehensive and user-friendly City Calendar. They suggested that the City should:

- Continue enhancing the online City Calendar services
- Promote the City Calendar and its features to the community
- Ensure the City Calendar is user-friendly and accessible to all residents

1.3 Requirements Definition

The TID28 project identified numerous Information Technology requirements related to infrastructure, hardware, software solutions and IT Operations. The figures on the following pages provide a matrix of all requirements. Figures 1.3.2 through 1.3.6 illustrate where each initiative was identified in the project, e.g., management interviews, TID Organizational Workshop, TID Focus Groups, etc. This is important for traceability purposes; in future years of the TID28 Implementation Roadmap, City staff will be able to reference where recommendations came from.

Figure 1.3.1: Sample Enterprise Initiative Matrix

			Software Departmental							Software Enterprise										
			Online Permitting (Replace Innoprise)	E-Land Dev. Permits (Replace Innoprise)	Online Liquor License	Code Enforcement App (Cartegraph)	Online RW Permitting Application	Intelligent Transportation Systems Strateg	Chameleon	ECMS	Imaging	Enterprise Content Managemnt	Enterprise Records Management	Automated Workflow	Agenda Management	Email Management	E-Forms	E-Signatures	Enterprise Taxonomy	Backfile Conversion
No.	Rapid Workflow	Business Process	11	12	13	14	15	16	17	18							19	20	21	22
1	Public Works	Facilities Managemnt																		
2	City Clerk	Agenda Management																		

How to read the matrices:
The enterprise initiative matrix provides a list of project tasks, e.g., Management Interviews, IT Focus Groups, Management Interview, etc., requirements on the left column. Each square symbol on that line indicates an IT initiative identified in that project task. The technology initiative is denoted above in the vertical text. In this illustration, the first initiative for the Public Works Facilities Management workshop is Enterprise Content Management; the second initiative is Enterprise Records Management, and so on.

It is important to note **that not all solutions identified** in Figures 1.1.3.2 through 1.1.3.6 are included in TID28. The fact that a solution was mentioned by City staff in a requirements definition task does not automatically constitute a recommended technology or initiative. The Roadmap does not include initiatives lacking a compelling business case, return on investment, or sufficient justification. Therefore, there is not a one-to-one relationship with items in the figures below and recommended solutions listed in Figure 1.1.5.1: Prioritized TID28 Implementation Roadmap Technology Initiatives.

Figure 1.3.2: Infrastructure & Hardware Requirements

April 3, 2025

Legend:

- Management Policy Initiatives
- Business Process Improvement
- Infrastructure Initiatives
- Hardware Initiatives
- Software Initiatives
- Web Initiatives
- Application Integration Initiatives

[illegible]

Figure 1.3.3: Department & Enterprise Software Requirements

Legend:

- Management Policy Initiatives
- Business Process Improvement
- Infrastructure Initiatives
- Hardware Initiatives
- Software Initiatives
- Web Initiatives
- Application Integration Initiatives

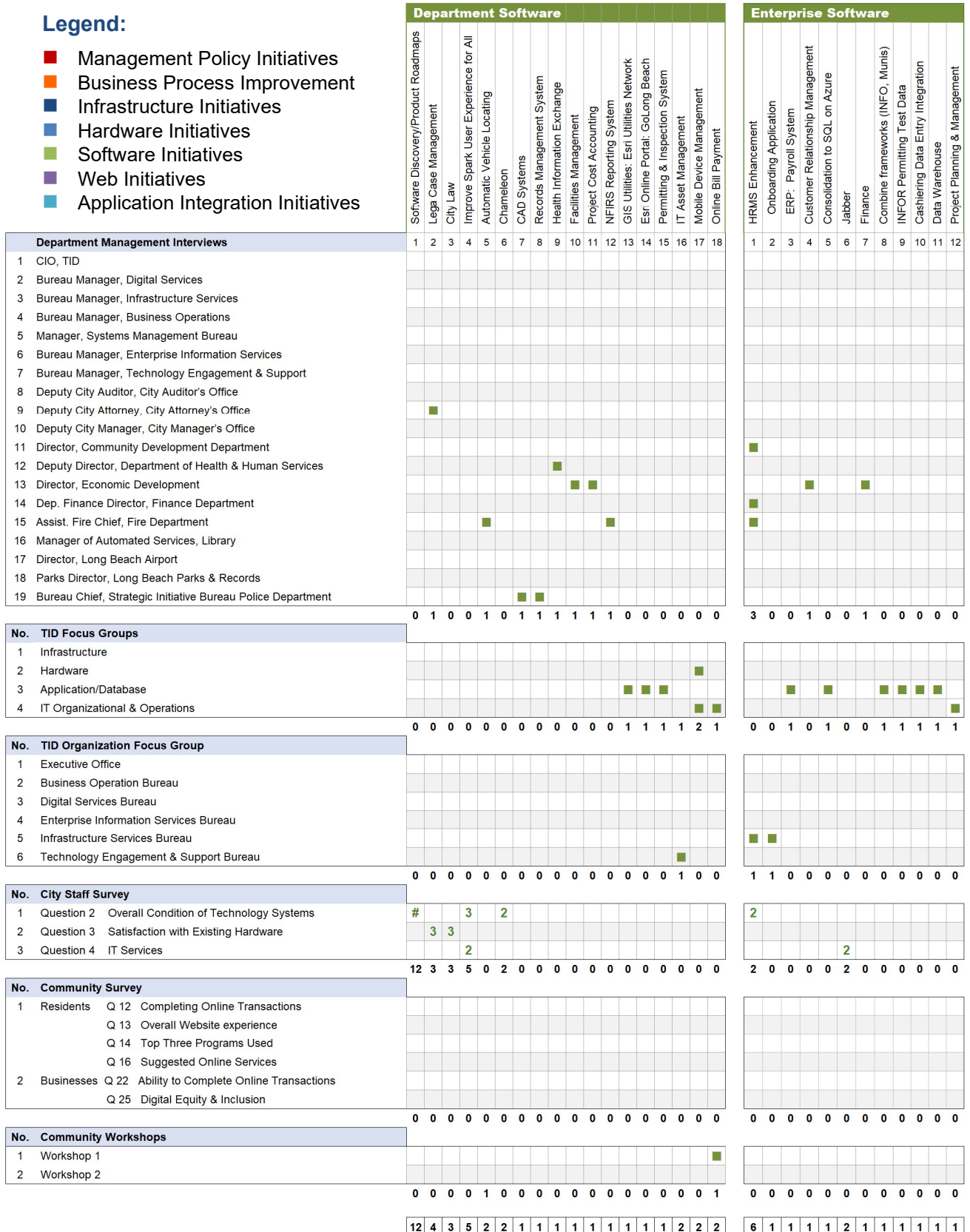


Figure 1.3.4: Integration & Web Initiatives

April 3, 2025

Legend:

- Management Policy Initiatives
- Business Process Improvement
- Infrastructure Initiatives
- Hardware Initiatives
- Software Initiatives
- Web Initiatives
- Application Integration Initiatives

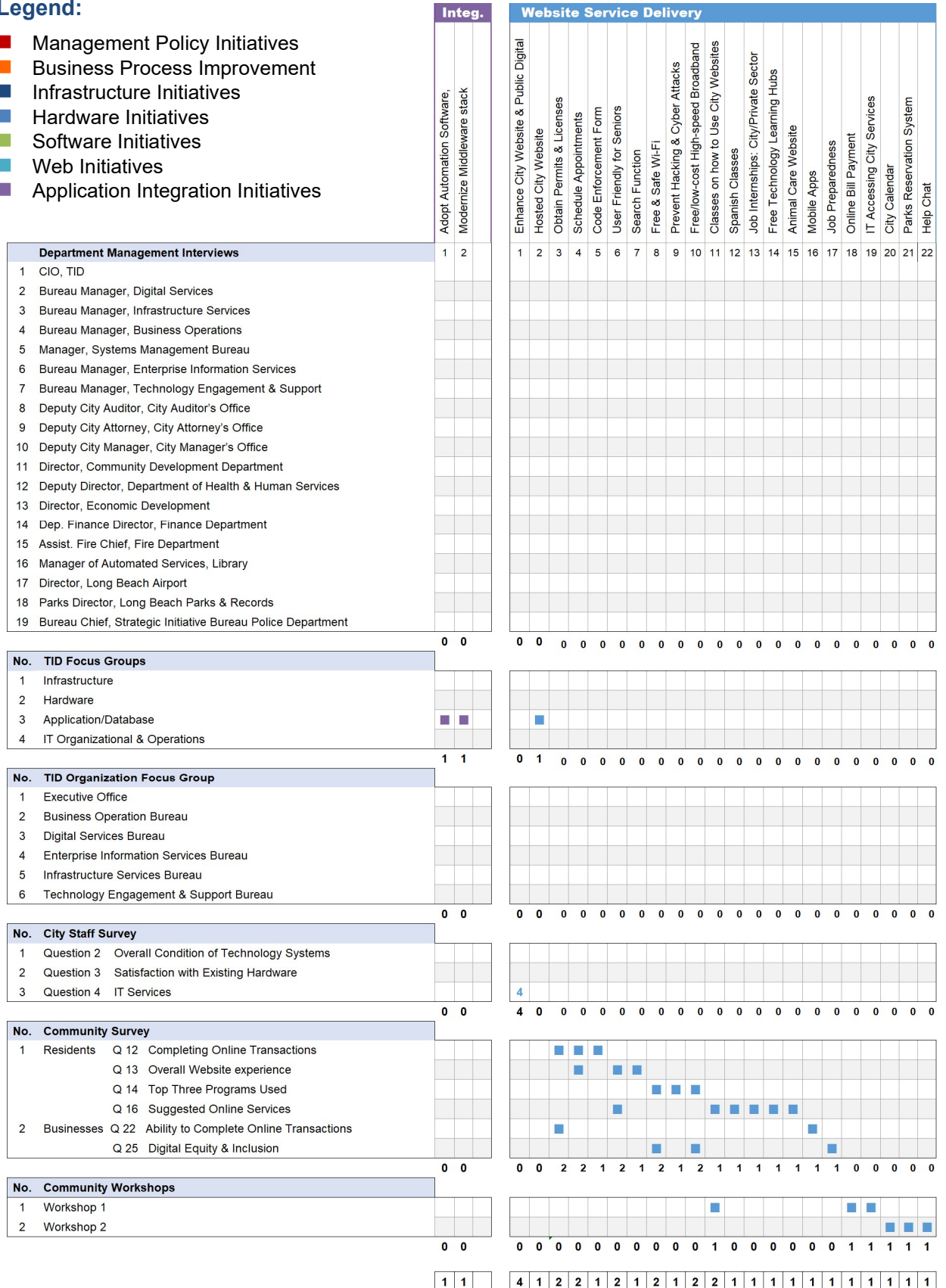


Figure 1.3.5: Operational Policies & Process Improvements

April 2, 2025

Legend:

- Management Policy Initiatives
- Business Process Improvement
- Infrastructure Initiatives
- Hardware Initiatives
- Software Initiatives
- Web Initiatives
- Application Integration Initiatives

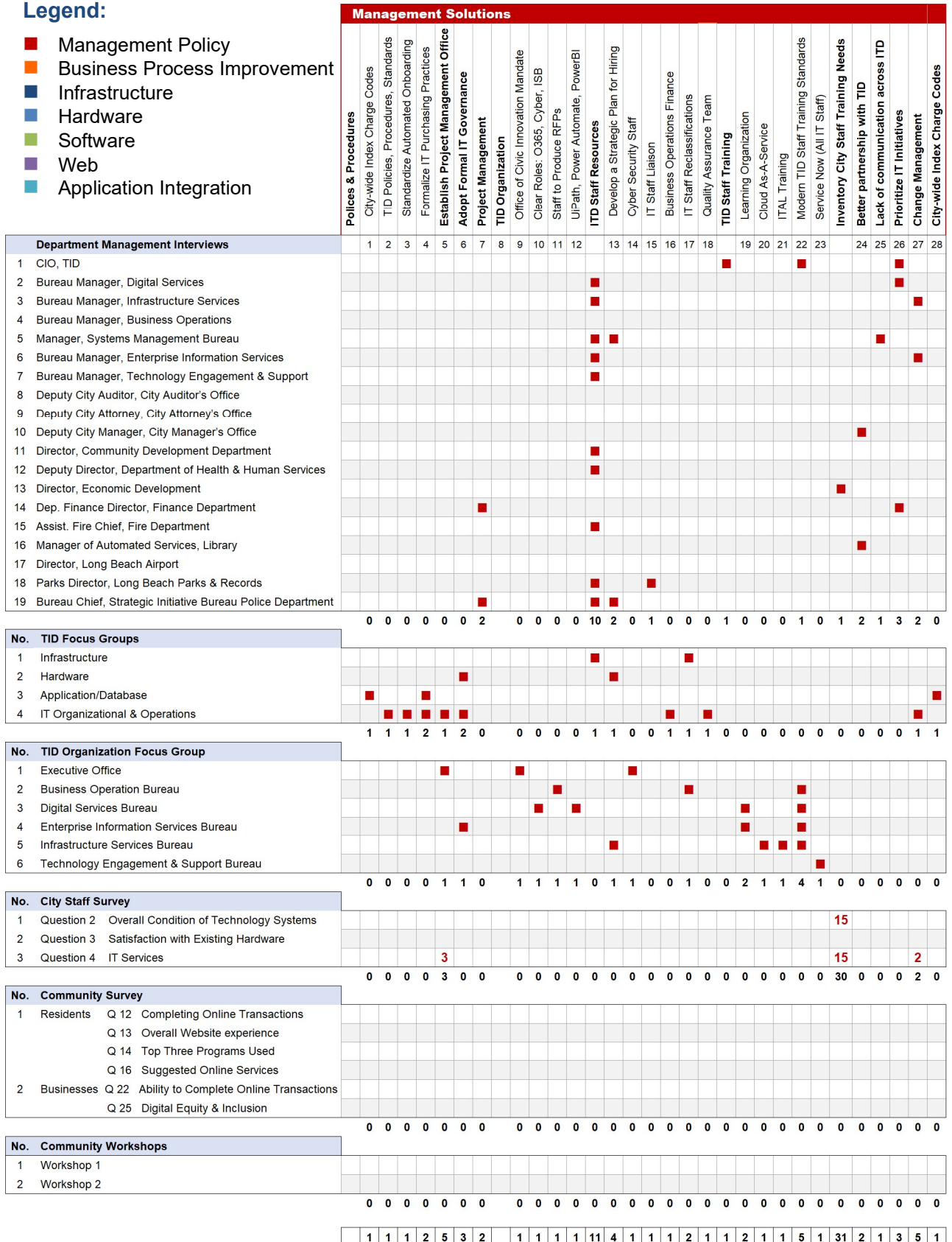
		IT Operation Solutions																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Department Management Interviews		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	CIO, TID	■					■															
2	Bureau Manager, Digital Services																					
3	Bureau Manager, Infrastructure Services																					
4	Bureau Manager, Business Operations																					
5	Manager, Systems Management Bureau																					
6	Bureau Manager, Enterprise Information Services																					
7	Bureau Manager, Technology Engagement & Support																					
8	Deputy City Auditor, City Auditor's Office																					
9	Deputy City Attorney, City Attorney's Office																					
10	Deputy City Manager, City Manager's Office																					
11	Director, Community Development Department																					
12	Deputy Director, Department of Health & Human Services																					
13	Director, Economic Development																					
14	Dep. Finance Director, Finance Department																					
15	Assist. Fire Chief, Fire Department																					
16	Manager of Automated Services, Library																					
17	Director, Long Beach Airport																					
18	Parks Director, Long Beach Parks & Records																					
19	Bureau Chief, Strategic Initiative Bureau Police Department																					
		1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. TID Focus Groups		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Infrastructure		■																			
2	Hardware				■			■	■	■							■	■	■		■	
3	Application/Database					■															■	
4	IT Organizational & Operations													■	■	■						■
		0	1	0	1	1	0	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1
No. TID Organization Focus Group		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Executive Office																					
2	Business Operation Bureau																					
3	Digital Services Bureau																					
4	Enterprise Information Services Bureau																					
5	Infrastructure Services Bureau																		■			
6	Technology Engagement & Support Bureau			■															■			
		0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
No. City Staff Survey		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Question 2 Overall Condition of Technology Systems																					
2	Question 3 Satisfaction with Existing Hardware																					
3	Question 4 IT Services																					
		0	0	0	0	0	0	0	0	0	1	3	0	0	55	0	0	0	0	0	0	0
No. Community Survey		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Residents Q 12 Completing Online Transactions																					
	Q 13 Overall Website experience																					
	Q 14 Top Three Programs Used																					
	Q 16 Suggested Online Services																					
2	Businesses Q 22 Ability to Complete Online Transactions																					
	Q 25 Digital Equity & Inclusion																					
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. Community Workshops		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Workshop 1																					
2	Workshop 2																					
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		1	1	1	1	1	1	1	1	1	1	4	1	1	55	1	1	1	2	1	1	1

Figure 1.3.6: Management Policies & Process Improvements

April 3, 2025

Legend:

- Management Policy
- Business Process Improvement
- Infrastructure
- Hardware
- Software
- Web
- Application Integration



The final number of initiatives selected to be included in TID28 is 31 (thirty-one), from an original 125 (one-hundred twenty-five) requirements surfaced through stakeholder outreach. Figure 1.3.7 below lists the 31 initiatives grouped by type of technology, sorted in descending order in terms of how many times they were identified in the project. Figure 1.5.1: Prioritized TID28 Implementation Roadmap Technology Initiatives.

Figure 1.3.7: TID28 Technology Initiatives (Not Prioritized)

Data Sources

ITFG:	Focus Groups with TID Technical Staff
ITFG INF	Infrastructure
ITFG HW	Hardware
ITG SW	Software
ITG OPS	Operations
TID ORG:	Focus Group with TID Leadership Team Members
MI:	Management Interviews (All City Departments)
SS / Staff Survey:	Online Staff Survey
CS / Community Survey:	Online Community for Residents and Businesses
CWS / Community Workshop:	Community Outreach Workshops (2)

No.	Abbr.	Actionable Initiative	Source	Count
Infrastructure				
1	INF 1	Develop Wi-Fi Infrastructure Plan & Standards	ITFG INF	26
2	INF 2	Modernize Cloud-based Phone Systems	ITFG INF	5
3	INF 3	Strengthen Cybersecurity Program, Tools & Training	MI	4
4	INF 4	Security Cameras Inventory and Update Plan	Staff Survey	4
5	INF 5	Rebuild & Harden City Cisco Switches & Routers Network	ITFG, SS, NI	3
Hardware				
6	HW 1	Accelerate Replacement of Outdated Computers	ITFG INF, SS	21
7	HW 2	Accelerate Cloud Based Computing	ITFG GW, SS	1
8	HW 3	Adopt Mobile Device Replacement Cycle	ITFG HW	1
Department Software				
9	D SW 1	Software Discovery & Product Roadmaps for Key Systems	SS, CS, CWS	12
10	D SW 2	Improve Spark User Experience for All	SS	3
11	D SW 3	Implement Mobile Device Management Software	ITFG HW, OPS	3
12	D SW 4	Conduct an IT Asset Inventory	TID ORG	1
Enterprise Software				
13	E SW 1	Enhance Human Resource Management System	MI, ITFG INF, SS	6
14	E SW 2	Develop Standard Project Planning & Management Practices & Methodologies	ITFG OP	1

Website/Service Delivery				
15	W 1	Enhance City Website & Public Digital Offerings	ITFG SW, SS, CS, CWS	8
IT Operations				
16	O 1	Improve Help Desk Documentation & Training	ITFG OP	1
17	O 2	Expand Security Monitoring & Incident Response Capacity	ITFG INF	1
18	O 3	Improve Usability of Internal Services Fund MOU	TID ORG	1
19	O 4	Establish Workstation OS Practice & Supported End User Applications	ITFG HW	1
20	O 5	Document Processes & Services & Establish KPIs & SLAs	ITGF OPS	2
21	O 6	Develop an Enhanced Data Protection Policy	ITFG OP	2
22	O 7	Enhance Business Continuity Plan	ITFG OP	1
23	O 8	Implement Critical Needs 2.0 Technology	TID ORG	1
Management				
24	M 1	Conduct Inventory City Staff Training Needs	SS	31
25	M 2	Develop a Strategic Plan for Hiring	MI, ITFG HW	11
26	M 3	Establish PMO/Project Management Standards	ITFG OPS/ORG, SS	5
27	M 4	Establish Modern TID Staff Training Standards	TID ORG	4
28	M 5	Adopt a Formal IT Governance Process	ITFG HW OPS	3
29	M 6	Formalize Technology Purchasing Practices	MI	3
30	M 7	Assess Employee Lifecycle Management Needs	ITFG OP	1
31	M 8	Establish Data Governance Framework	SS	1

These 31 initiatives went through a final review and were identified as being reasonably possible to be implemented in a four-year timeline. (It should be noted that several initiatives will continue beyond the four-year implementation timeline.)

1.4 Prioritization Criteria

TID28 Roadmap initiatives are processed through a prioritization model that includes a range of performance parameters aligned with common municipal business objectives and tangible internal/public benefits. The criteria were used by the City/ThirdWave Project Team to identify a preliminary sorting of initiatives. A final prioritization was carried out considering technology prerequisites, related applications, optimum sequencing of IT initiatives, and investment balancing.



The figure below describes the criteria employed to prioritize TID28 Roadmap initiatives, using a weighted rating system.

Figure 1.4.1: TID28 Implementation Roadmap Initiative Prioritization Criteria

Business Case Benefit Rating

- 5 High:** Provides significant benefits to internal operating efficiencies, extraordinary customer service.
- 3 Medium:** Provides some benefits to internal operating efficiencies, very good customer service.
- 1 Low:** Provides limited benefits for internal operating efficiency, good customer service.

Prioritization Application of Criteria

- 1. Requirements Gathering: From City Staff & Community Members**
 - The number of times an initiative was identified in the requirements definition phase.
 - Provides the architecture and infrastructure required to implement other key projects.
 - Facilitates collaboration.
 - Provides an enterprise solution, highly leverageable, benefiting the City/Community.
- 2. Improved Customer Experience**
 - Significantly improves customer service.
 - Provides online 24x7 convenience.
 - Provides Web-enabled services for faster/easier service to the public.
- 3. Business Process Improvement**
 - Streamlines business processes.
 - Fosters business process automation.
 - Shortens service delivery timelines.
- 4. Digital Equity & Community wellbeing**
 - Aligns with and advances the City's equity, accessibility, and inclusion goals.
 - Fosters increased access to City services and information beneficial to historically disadvantaged communities.
 - Helps minimize the digital divide.
- 5. Operational Effectiveness**
 - Staff time savings.
 - Fosters internal operating efficiencies.
 - Improves organizational practices, aligning them with enterprise/departmental goals.
 - Enhances the ability to share data.
- 6. Cost Savings/Cost Avoidance**
 - Provides the potential for hard dollar savings.
 - Potential deferred expenses.
 - Provides cost avoidance opportunities.
- 7. Cybersecurity**
 - Shores up the City's cybersecurity posture.
 - Protects City systems from malware/ransomware attacks.
 - Protects data privacy and the City data.
 - Prevents financial loss.
 - Complies with legal obligations.

1.5 TID Leadership Initiative Shortlisting

The figures in the previous Enterprise Initiative Matrix® list too many to be accomplished in the TID28 four-year timeline. The shortlisted 31 initiatives were reviewed by the TID leadership team and ranked based on the following criteria:

- 0 Not a priority:** This initiative has relatively lower value to the organization, relatively lower value to the community, has already been initiated, or has been cancelled/resolved/completed.
- 1 Low or medium priority.**
- 2 High priority:** This initiative must be included in TID28.

Figure 1.5.1 below provides a list of the final prioritized technology initiatives grouped into yearly phases for management consideration and budgeting.

Figure 1.5.1: Prioritized TID28 Implementation Roadmap Technology Initiatives

Legend:

Type of Initiative		Responsible Party:	
M	Management Initiatives	TID Staff:	Policies, practices, and system deployments
OPS	IT Operations	Consultant:	Assessments, Planning, Training
INF	Infrastructure Systems	Vendor:	Systems Implementations/Integration
HW	Hardware		
DSW	Departmental Software	Note:	<i>Contracted staff are not shown in this figure. They are included in the staff resources in Figure 4.3.1: IT Resources & Related Investment</i>
ESW	Enterprise Software		
W	Web		

TID Bureau

TES	Technology Engagement and Support
BOB	Business Operations Bureau
EO	Executive Office
CS	Cybersecurity
DSB	Digital Services Bureau
ISB	Infrastructure Services Bureau
EIS	Enterprise Information Systems Bureau

YEAR 1

No.	Type	Initiative	TID Bureau	Resp. Party
1.	O 8	Implement Critical Needs 2.0 Technology	All	TID Staff/Vendor
2.	D SW 4	Conduct an IT Asset Inventory	TES	TID Staff
3.	HW 1	Accelerate Replacement of Outdated Computers	TES	Consultant
4.	M 2	Develop a Strategic Plan for Hiring	BOB	Consult./TID Staff
5.	M 5	Adopt a Formal IT Governance Process	EO	Consult./TID Staff
6.	INF 2	Modernize Cloud-based Phone Systems	ISB	Vendor
7.	INF 3	Strengthen Cybersecurity Program, Tools, and Training	CS	Consultant
8.	HW 2	Accelerate Cloud Based Computing	DSB ISB	TID/Consult.
9.	D SW 3	Implement Mobile Device Management Software	TES	Vendor
10.	W 1	Enhance City Website and Public Digital Offerings	DSB EIS	Consult./Vendor
11.	O 4	Establish Workstation OS Practice, Support End User	TES	TID Staff

Deliverable 3.3: Final TID28

April 3, 2025

12. O 1 Improve Help Desk Documentation, Training, Cust. Satisf. TES Consult./Vendor

YEAR 2

No.	Type	Initiative	TID Bureau	Resp. Party
13.	O 3	Improve Usability of Internal Services Fund MOU	BOB	Consultant
14.	INF 1	Develop Wi-Fi Infrastructure Plan and Standards	ISB	Consultant
15.	INF 5	Rebuild/Harden Cisco Switches & Routers Network Equip.	ISB	Vendor
16.	D SW 2	Improve Spark User Experience for All	DSB TES	TID Staff
17.	M 3	Establish Proj. Management Office/Proj. Management Stds.	EO	TID Staff
18.	E SW 2	Develop Sd. Project Planning/Management Practice	EO	TID Staff
19.	O 6	Develop an Enhanced Data Protection Policy	ISB	TID Staff
20.	M 7	Assess Employee Lifecycle Management Needs	DSB EIS ISB TES	Consult.
21.	HW 3	Adopt Mobile Device Replacement Cycle	TES	TID Staff

YEAR 3




















No.	Type	Initiative	TID Bure.	Resp. Party
22.	M 8	Establish Data Governance Framework	EO DSB	TID Staff
23.	D SW 1	Conduct Software Discovery, Initiate Product Roadmaps	DSB EIS	Consultant
24.	O 2	Expand Security Monitoring / Incident Response Capacity	CS ISB	Consultant
25.	M 6	Formalize Technology Purchasing Practices	EO BOB	TID Staff
26.	INF 4	Security Cameras Inventory and Update Plan	ISB	TID Staff/Consult.
27.	E SW 1	Enhance Human Resource Management System	EIS	Consult./Vendor

YEAR 4

No.	Type	Initiative	TID Bure.	Resp. Party
28.	O 5	Document Processes/Services, Establish KPIs and SLAs	EO	Consult./TID Staff
29.	O 7	Enhance Business Continuity Plan	CS	Consultant
30.	M 1	Conduct Inventory of City Staff Training Needs	BOB	TID Staff
31.	M 4	Establish Modern TID Staff Training Standards	BOB	Consultant

The figures below illustrate the proposed initiatives for TID28 over the four-year timeline. Illustrating the types of projects that will be carried out by TID Bureaus.

Figure 1.5.2: Initiatives by Year and Type

YEAR 1	TYPE OF INITIATIVE	#	
	Infrastructure	2	
	Hardware	2	
	Department Software	2	
	Enterprise Software	0	
	Web	1	
	Operations	3	
	Management	2	
YEAR 2	TYPE OF INITIATIVE	#	
	Infrastructure	2	
	Hardware	1	
	Department Software	1	
	Enterprise Software	1	
	Web	0	
	Operations	2	
	Management	2	
YEAR 3	TYPE OF INITIATIVE	#	
	Infrastructure	1	
	Hardware	0	
	Department Software	1	
	Enterprise Software	1	
	Web	0	
	Operations	1	
	Management	2	
YEAR 4	TYPE OF INITIATIVE	#	
	Infrastructure	0	
	Hardware	0	
	Department Software	0	
	Enterprise Software	0	
	Web	0	
	Operations	2	
	Management	2	

Section 2

TID28 Initiatives



2.1 Introduction to TID28 Recommendations

This section of the TID28 includes a description of the 31 technology initiatives reflecting input provided in all phases of the project.

The TID28 Roadmap does not address the following:

- Requirements currently being addressed by TID or departments themselves.
- Existing systems that are in the process of being enhanced.
- Information Systems currently being procured.
- User needs that lacked detailed description, compelling business case, or sufficient justification.
- Human resource requirements not related to the IT organization.
- Equipment not following under the umbrella of Information Technology, e.g. cars, office equipment, etc.



The City will use this document as a reference document over the next four years to revisit all solutions identified during the TID28 project.

2.1.1 TID Vision and Principles

The following outlines TID’s vision and principles:

TID Vision

“ We are the heart of a connected, secure, and future-ready Long Beach.”



TID Principles

TID Principle	Principle Description
We listen and respond	We foster trust and collaboration with our customers by ensuring people feel valued, respected, and empowered. Our ability to listen to diverse perspectives and respond leads to improved service delivery, inclusivity, and stronger relationships, ultimately enhancing the quality of life for all.
We are outcome-driven	We are unafraid of straying from the tried and true and will focus on delivering outstanding user experiences by focusing on outcomes that serve the greater good of our customers. We will analyze unintended consequences, measure our progress, and happily course-correct along the way to ensure success.
We solve problems	We seek to understand the underlying need and provide solutions that address the root cause, not the symptom.
We believe in our people	We will unleash our team's ability to grow, develop, and learn about technology. We create a culture of collaboration, empower our team to speak up and make decisions, and bring about the best in one another.
We make government simple	We favor solutions that are easy to use and maintain. We seek to automate and digitize our processes to eliminate human error and free our team to focus on activities that provide the most value to our customers.

2.2 TID28 Implementation Roadmap Initiatives

This section provides a description of the 31 (thirty-one) TID28 initiatives.

These recommendations are informed by all phases of discovery and requirements definition tasks. Recommended interventions reflect the City's input, IT industry best practices, and ThirdWave's 37 years of experience in this arena, and the 137 similar projects they have carried out. Interventions are informed by all phases of discovery and requirements definition, and synthesize staff input and industry best practices, as appropriate.



2.2.1 Existing TID Efforts

In Progress efforts interventions, meaning TID workstreams, projects, and interventions that are already underway and have dedicated resources and funding, are not in the TID28 plan. TID has **nearly 300** existing projects, which are listed in Section 8 - Appendix.

2.2.2 TID28 Interventions

The tables on the following pages describe each proposed TID28 initiative, organized by type (Infrastructure, Hardware, Software, IT Operations and Management recommendations).

Each intervention stands on its own, and includes the following fields and related information:

- **Reference number**
- **Intervention name**
- **Primary data source:** *From what part of discovery did the findings come from:*
 - [MI] Management Interview
 - [TID ORG] TID Organization Workshop
 - [ITFG] TID Staff Focus Group: Infrastructure [INF], Hardware [HW], Software [SW], Operations [OPS]
 - [SS] Staff Survey
 - [CS] Community Survey
 - [CWS] Community Workshops
- **Description of Findings, Recommended actions, and Outcomes.**

- **Potential alignment with TID themes and City priorities:**
 - Themes
 - Attract and retain top talent.
 - Build and maintain a modern technology ecosystem
 - Keep data, systems, and people safe from harm.
 - Optimize services through equitable, data-informed governance
 - Provide outstanding customer experience
 - Provide secure technology services anytime, anywhere.
 - City-wide priorities
 - Strategic Vision 2030 (SV2030)
 - People have access to technology to learn, communicate, engage, and thrive in our City
 - Employees are energized, thriving, engaged, and reflect the diversity of the communities in our City
 - Our City is a learning organization that utilizes innovation, experimentation, and data to continuously learn and grow
 - We are technology and data informed
 - TID Racial Equity Action Plan (REAP) (forthcoming)
 - Long Beach City Council priorities:
 - Public safety
 - Economic development
 - Housing and Homelessness
 - 2028 Olympics Preparedness
 - ThirdWave (TW) Initial Ranking: *ThirdWave independently ranked each intervention either a 1, 3, or 5 for seven criteria (See Section 1.4).*
- Initial TID Avg Score: *The TID Senior Leadership team was asked to rate each intervention, please refer Section 1.5. Shown here is the average score across all rankings.*

2.3 Technology Initiatives

INF Infrastructure

INF 1		Name: Develop Wi-Fi Infrastructure Plan and Standards						Source: [ITFG INF]	
<p>Findings:</p> <p>The Infrastructure IT Focus Group revealed the City’s Wi-Fi infrastructure is outdated. Not enough Wi-Fi has been deployed in facilities, staff are unable to maintain the existing Wi-Fi, results in:</p> <ul style="list-style-type: none">• Unable to keep up with breaks and fixes.• Can’t provide Wi-Fi to certain sites and the field.• Some parks have Wi-Fi that does not work anymore.• Unable to keep up with the latest Wi-Fi technology.• Residents cannot use Wi-Fi, creating digital divide for residents that rely on City Wi-Fi.• Digital equity restrains.• Intermittently, cannot collect payments at Parks & Recs facilities, approx.. 10% of 160 parks. <p>Recommendations:</p> <ul style="list-style-type: none">• Carry out a Wi-Fi assessment, articulate technical requirements, and develop a plan and budget for Wi-Fi.<ul style="list-style-type: none">○ The plan should provide Wi-Fi adequate for City parks and facilities.○ The plan should account for Critical Needs 2.0 Plan• Develop an ongoing funding plan for equipment with an equity lens.• Develop standards for public education for public wi-fi deployment. <p>Outcomes:</p> <ul style="list-style-type: none">• Reduce the digital divide.• Improve staff connectivity and productivity• Enhance service delivery to the public.• Helps City prepare for LA Olympic needs.									
Potential Alignment									
Themes <ul style="list-style-type: none">• Provide secure technology services anytime, anywhere			City Priorities <ul style="list-style-type: none">• SV2030; REAP• Public safety• 2028• Housing and Homelessness						
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score	
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2	
5	3	3	3	1	1	5	21		

April 3, 2025

INF 2	Name: Modernize Cloud-based Phone Systems						Source: [ITFG INF]	
<p>Findings: The IT Focus Group on Infrastructure revealed old and outdated technology, e.g., voice systems and an overreliance on these systems. This results in the following:</p> <ul style="list-style-type: none">• Systems go down.• Unreliable systems.• Not able to keep up with the latest features.• Hardware behind the phone system is unsupported.• Hardware for telephone system is difficult to support and requires extra work and working with the vendor.• Older phones, unable to increase bandwidth because computers connect to phones (100 Mbps).• Unable to leverage network upgrades because of phone hardware limitations. <p>Recommendations:</p> <ul style="list-style-type: none">• Modernize IVR systems to provide more user-friendly experience to residents in call centers.• Replace obsolete hardware to support Cloud/Voice• Provide residents with a self-service portal, with a chat bot. <p>Outcomes:</p> <ul style="list-style-type: none">• Improve self-service tied to the phone system.• Staff time saving.• Reduce calls to call centers.• Improve application performance and maintenance.• Accurate account information.• Reduce costs associated with phones.• More efficient use of staff time.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Provide secure technology services anytime, anywhere.				City Priorities <ul style="list-style-type: none">• SV2030				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.33
5	3	3	3	3	5	3	25	

INF 3	Name: Strengthen Cybersecurity Program, Tools & Training	Source: [MI]						
<p>Findings: The Management Interviews revealed the following:</p> <ul style="list-style-type: none">Bureau Manager, Infrastructure Services, noted the City needs to continue focusing and hardening the City's technology security posture.Bureau Manager, Enterprise Info Services, noted the criticality of cybersecurity threats, and ensuring team members can secure and respond to those types of events.Deputy City Auditor, City Auditor's Office, noted cybersecurity if a pressing issue with the City. The City recently experienced a cybersecurity attack. As platforms keep developing, business continuity and making systems work with each other will be key. <p>Recommendations:</p> <ul style="list-style-type: none">Develop and adopt robust cybersecurity strategy.Review and enhance existing cybersecurity program.Purchase and implement security software and hardware tools to enhance the City's cybersecurity posture.Articulate and adopt rigorous cybersecurity policiesProvide additional training to TID and department staff. <p>Outcomes:</p> <ul style="list-style-type: none">Improve data security.Cybersecurity protection.Mitigate cyber and malware attacks.								
Potential Alignment								
<p>Themes</p> <ul style="list-style-type: none">Keep data, systems, and people safe from harm.		<p>City Priorities</p> <ul style="list-style-type: none">Public safety2028 OlympicsSV2030						
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
5	5	1	3	3	5	3	25	

INF 4	Name: Security Cameras Inventory and Update Plan						Source: [SS]	
<p>Findings:</p> <ul style="list-style-type: none">Security cameras were noted several times in the City staff online survey, as noted below:"When certain City facilities have cameras, at times, especially if staff are re-assigned, the information as to who has access to, view or the information, doesn't get shared. It is not clear to City staff of departments of the PD has access.""Security cameras do not zoom in to the level that we need to ID patrons who violate rules/commit crimes in the library. Also, there are a number of blind spots that are a safety/security risk.""Would appreciate security cameras in Lincoln Park garage.""City cameras are poorly maintained; some don't work as they are on an older network." <p>Recommendations:</p> <ul style="list-style-type: none">In collaboration with City staff, complete a full physical inventory and gap analysis of all City-managed security cameras, including model, manufacturers, model, age, and any existing deficiencies. Focus on 2028 Olympics event sites, parks, and event spaces.Develop a Security Update Implementation Plan, include priorities, qualities, budget estimates, and preliminary schedule. <p>Outcomes:</p> <ul style="list-style-type: none">Clear definition of who has access to security cameras.Enhance camera functionality including zooming, for enhanced security measures.Security cameras will be deployed at key security locations.Improve security for the public.								
Potential Alignment								
Themes <ul style="list-style-type: none">Keep data, systems, and people safe from harm.			City Priorities <ul style="list-style-type: none">Public safety2028					
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.17
5	1	1	1	1	1	1	11	

April 3, 2025

INF 5	Name: Rebuild and Harden City Cisco Switches & Routers Network Equipment	Source: [MI, SS]						
<p>Findings: The Infrastructure IT Focus Group with TID staff revealed the City has outdated network equipment which is over 15 years old. This results in the following:</p> <ul style="list-style-type: none">• Failure of equipment.• System upgrades and peripherals.• Systems are not able to handle latest firmware.• Unable to achieve PCI compliance.• Higher support costs. <p>Recommendations:</p> <ul style="list-style-type: none">• Develop an equipment upgrade plan; Invest in equipment upgrades, change out to newer equipment (Cisco switches and routers and access points)• Implement an automated process for updating and patching the equipment.• Modernize Library routers at main library and branch libraries.• Replace aged and out of support network equipment. This will be an annual activity / requirement.• Replace outdated Core Internet WiFi routers.• Replace current routers in anticipation for the required bandwidth for the Olympics. <p>Outcomes:</p> <ul style="list-style-type: none">• Be in compliance with PCI requirements.• Keep up with latest technology.• Keep up with network demands and speeds.• Easier maintenance.• Stronger security posture.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Build and maintain a modern technology ecosystem		City Priorities <ul style="list-style-type: none">• SV2030• Public safety• 2028						
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
5	3	3	3	3	3	3	23	

HW Hardware: Servers, Workstations, Peripherals

HW 1	Name: Accelerate Replacement of Outdated Computers	Source: [ITFG INF]
<p>Findings:</p> <p>Department Management Interviews:</p> <ul style="list-style-type: none"> The Management Interviews revealed the following: The Fire Department identified a need for new hardware for iPad-based incident management systems and laptop computers for all fire station personnel: 400 laptops. The Airport identified the requirement for more nuanced deployment of hardware, e.g., iPad or iPhones, for inspections to foster quick repairs. <p>Online Survey:</p> <ul style="list-style-type: none"> The Online Staff Survey revealed that when staff were asked to rate various hardware systems, 73% of respondents rated PCs and Laptops as "Excellent and Good." However, numerous staff commented on the City's hardware systems. Typical comments are provided below: "Computers are very old and not replaced frequently enough. Everything is outdated." "My hard drive shuts off my monitor whenever I even slightly touch it. When coming on again, the desktop icons are 're-sorted'. Highly irritating!" "Outdated/broken hardware (surfaces, tablets, MiFi's)." "Our computers are so old and outdated. We are using pirated versions of Microsoft Office, which don't work on all of our computers. We only have four computers, but each one of them is programmed differently." "Computers and software are old and not replaced/updated when they are outdated." "Computer systems are outdated. People have different versions of the same software. Monitors continue to die and it takes forever to get replacements. Want to switch to laptops with docking stations but have to wait until life of PC's are up." "It would be nice if we get PC upgrades every 2 years." "Current laptop is very slow and outdated." "Computers are very old and not replaced frequently enough. Everything is outdated." <p>Recommendations:</p> <ul style="list-style-type: none"> After PC and laptop end user inventory is completed, prioritize computer replacements based on most risk. Add additional temporary staff to catch up on the computer replacements Articulate, communicate, and implement a scheduled hardware replacement schedule including PCs, Laptops, and Windows tablets Ensure that hardware standards are reviewed and updated at least once a year to ensure that hardware will support future enhancements and features in upcoming OS and application distributions <p>Outcomes:</p> <ul style="list-style-type: none"> Improve staff productivity. Better security posture. Reduced support costs and response times for service. 		
<p>Potential Alignment</p>		

April 3, 2025

Themes <ul style="list-style-type: none">• Provide secure technology services anytime, anywhere.		City Priorities <ul style="list-style-type: none">• SV2030• 2028						
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1.67
1	1	3	3	3	3	3	17	

April 3, 2025

HW 2	Name: Accelerate Cloud Based Computing							Source: [ITFG HW]
<p>Findings:</p> <ul style="list-style-type: none">The Hardware IT Focus Group with TID staff revealed there are too many on prem servers, and TID staff cannot make direct updates as it relates to applications. This results in:Downtime.Production is unknown. When they perform windows updates and do testing, TID staff have to work weekends. <p>Recommendations:</p> <ul style="list-style-type: none">Work with trusted partners to develop a cloud-first strategyTransform the City's Disaster Recovery environment into a cloud-based solution.Transition server workloads from older equipment into the cloud avoiding hardware refresh and maintenance renewals.Enhance security update process rigor, eliminating application barriers, and enhance automation.Transition database systems to cloud based DB-as-a-Service platforms. <p>Outcomes:</p> <ul style="list-style-type: none">Eliminate down time.Quick, easy changes on the fly.Rapid Provision, Eliminates the lead time of the procurement process.Reduces cost of hardware maintenance.Reduces hardware refresh costs and implementation labor.Reduced human intervention for applying critical updates.								
Potential Alignment								
Themes <ul style="list-style-type: none">Provide secure technology services anytime, anywhere.					City Priorities <ul style="list-style-type: none">SV2030			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
1	1	3	3	1	5	3	17	

April 3, 2025

HW 3	Name: Adopt Mobile Device Replacement Cycle							Source: [ITFG HW]
<p>Findings:</p> <ul style="list-style-type: none">The hardware TID Focus Group revealed the City does not have a replacement cycle for mobile devices, including:1,800 iPhones.600 iPads. <p>This results in the following:</p> <ul style="list-style-type: none">Systems run more slowly.Devices are difficult to support.Requires user intervention.Have a hard time updating the OS. <p>Recommendations:</p> <ul style="list-style-type: none">Adopt a replacement cycle, every 3 years for all mobile devices including iPhones and iPads.Ensure the OS are updated on a regular basis, of a supported version.Acquire additional resource to implement the upgrades (have 3 now, need one more). <p>Outcomes:</p> <ul style="list-style-type: none">Better security posture.Less tickets coming for support.More uptime for phones.Improve service for Public Safety.Increase productivity.								
Potential Alignment								
Themes <ul style="list-style-type: none">Build and maintain a modern technology ecosystem					City Priorities <ul style="list-style-type: none">SV2030			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.33
1	1	1	3	1	3	3	13	

D SW Department Software

D SW 1	Name: Software Discovery and Product Roadmaps for Key Systems	Source: [SS]
<p>Findings:</p> <p>The online staff survey revealed the following:</p> <ul style="list-style-type: none">• When asked about staff satisfaction with software specific to their department, the majority answered Good (19.75%), followed by Needs Improvement (13.51%).• When asked to rate which systems need most improvement, staff responded Software (30.56%), followed by Networks (28.70%), and Hardware (26.40%).• Numerous staff commented on the City's software. Typical comments are provided below:• "Some of these software systems have Macintosh level interfaces that belong and probably are in a museum, e.g., HR, City Council, LB Buys, and the city website."• "Software is old and doesn't speak or transfer to other applications/software in the City. Need one place for information and not inputting the same things over and over."• "My bureau is utilizing an antiquated software with an interface seemingly developed in the 90s without any major updates."• "Software has reached mature support and compatibility with new technology is a concern."• "Software that we do have is outdated."• "Software versioning and updates are haphazard and inconsistent between users. Software is usually several years out of date of the industry standard (such as Adobe Acrobat). There is constant institutional pushback against users asking for additional or newer software, both at the department level and TID level. Procurement of licenses and installation takes way too long. Rollout of new software or updated versions to a work unit (division or bureau-size) is nearly impossible because TID insists on scheduling with individual users and puts the burden on the users to schedule. Overall IT culture of the City organization is 15-20 years in the past."• "Difficult to get software added to City devices."• "Some software seems quite dated (legacy)."• "Antiquated software with very minimal technical support from the vendor." <p>The Management Interview with the Police Department Bureau Chief, Strategic Initiative Bureau revealed the Tiburon (bought by Central Square) is coming to end-of-life within the next few years. It is old and soon will not be supported. It has challenges communicating with INFORM. There's been a lot of challenges with Tiburon and Central Square integration, and the Central Square Records Management System.</p> <p>Moreover, the Records Management System has been very problematic. The system went live in September 2022, and the PD has not received a final product. Integration with external applications a problematic, e.g., LACRIS (LA County Sheriff Booking and Mug Shot system). This is a huge problem, resulting in a lot of delays and less officers to be available.</p> <p>Recommendations:</p> <ul style="list-style-type: none">• Conduct an enterprise software inventory process to identify relationships, risks, and duplication of effort.• Conduct a targeted software satisfaction survey to understand the user community's needs and pain points.• Develop software / product roadmaps for key city's major systems, depending on importance or user satisfaction.		

<ul style="list-style-type: none"> Establish and require service level agreements to ensure reliability, set standards, and protect against future software obsolescence. Define requirements for a system and procure a system that addresses the complete spectrum of CAD / RMS technical requirements, at a minimum: Features and functions for all key PD functions: including state and federal mandates, CJIS, communications, etc. Business Process Automation. Reporting Requirements. Interface Requirements. Data Migration Requirements. <p>Outcomes:</p> <ul style="list-style-type: none"> Staff time savings. Increase staff productivity. Business process improvement. Staff know how to use software. Enhance services to the public across City departments. Deploy a solution that is responsive to the PD's requirements. Ensure the highest level of public safety and community wellbeing. 								
Potential Alignment								
Themes <ul style="list-style-type: none"> Build and maintain a modern technology ecosystem 					City Priorities <ul style="list-style-type: none"> SV2030 Public safety 			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	2
5	3	5	3	3	1	3	23	

D SW 2	Name: Improve Spark User Experience for All	Source: [SS]
<p>Findings:</p> <ul style="list-style-type: none"> • The online staff survey revealed the following: • A typical response related to TID communications is illustrated by the following comment: "TID staff communication is generally great. There have been few instances recently where some requests may have fallen through, but typically, we got good responses." • When asked to rate TIDs communication methods. Spark was rated lowest against 'Emails from Support Inbox' and 'Communication and follow-through with TID staff.' However, it was rated Excellent 18,9% and as Good 51.8% by staff, for a total positive score of 70.7%. So, there is room for improvement. • The online staff survey revealed a number of deficiencies with the Spark application. Typical comments are provided below: • "Address issues with feedback, the Sparks system has been working and I look forward to using it more. But I can guarantee that more sworn personnel have no idea how to submit an IT request." • "Spark emails get overwhelming, hard to keep track/follow." • "The Spark notifications don't tell you what the ticket was submitted for or what service has been completed. You're expected to cross-reference numbers. Communication and follow-through with TID staff (this could include calls, emails, Teams messages, and/or hallway conversations)." • "Spark approvals require an incredible amount of scrolling to see what we are actually approving. Those emails should be more concise." • "It's unfortunate that all the Spark notifications go to my spam." • "Spark email notifications should be improved by placing everything that was submitted to the request in the email notification. It's difficult to find what request # and Spark notification belongs to which request because the subject line and the content of the email only includes the request #." • "Spark email notifications are way too vague; you cannot tell what the issue is until you look up the ticket to see." • "I don't know what "spark" is, so I don't know the difference between a support email or a spark email, but TID emails me so much that it's just 'white noise', and I delete/ignore nearly all of it. Please stop spamming us with useless emails." • "Spark has no follow-up." • "Maybe look into replacing SPARK with an improved user experience." <p>Recommendations:</p> <ul style="list-style-type: none"> • Conduct Spark focus groups to identify common trends impacting user experience. • Push out new user interface (UI) for fulfiller interface. • Document, prioritize, and implement findings from Spark focus groups. • Create training content and provide a regular training program for TID staff/fulfillers. <p>Outcomes:</p> <ul style="list-style-type: none"> • Improve end user experience. • Enhance effective use of Spark. • Improve level of support provided by TID. 		
Potential Alignment		

April 3, 2025

Themes <ul style="list-style-type: none">Provide outstanding customer experience.				City Priorities <ul style="list-style-type: none">SV2030				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1
3	3	3	3	1	1	1	15	

D SW 3	Name: Implement Mobile Device Management Software	Source: ITFG HW, OPS]						
<p>Findings:</p> <p>The Software and Operations IT Focus Groups revealed a lack of accountability of assets and devices on the network. This results in introducing security risks for unauthorized devices on the City network.</p> <p>Recommendations:</p> <ul style="list-style-type: none">• Implement device management software, e.g., Intune deployment software or equal, with typical functionality:• Configure settings, e.g., Wi-Fi and email, on all devices consistently.• Remote support for mobile devices.• Manage, support, and secure mobile devices.• Managed Over-The-Air (OTA) and app updates.• No-touch provisioning.• Remote view and control.• APIs and scripting.• Record who the asset is assigned to, location, and business purpose in ServiceNow.• Carry out reconciliation after the system is deployed.• Carry out business process assessment and identify opportunities for improvement.• Collaborate with HR when staff are onboarded, transfer departments, or separate (PC, Mobile devices, etc.). <p>Outcomes:</p> <ul style="list-style-type: none">• Improve mobile device inventory.• Mitigate Security Risks.• Reduce liability for audits.• Mobile Policy creation and enforcement.								
<p>Potential Alignment</p> <table><tr><td><p>Themes</p><ul style="list-style-type: none">• Build and maintain a modern technology ecosystem</td><td><p>City Priorities</p><ul style="list-style-type: none">• SV2030</td></tr></table>			<p>Themes</p> <ul style="list-style-type: none">• Build and maintain a modern technology ecosystem	<p>City Priorities</p> <ul style="list-style-type: none">• SV2030				
<p>Themes</p> <ul style="list-style-type: none">• Build and maintain a modern technology ecosystem	<p>City Priorities</p> <ul style="list-style-type: none">• SV2030							
<p>TW Initial Ranking (1, 3, or 5)</p>								<p>Initial TID Avg Score</p>
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	<p>1.5</p>
1	3	3	3	3	1	1	15	

D SW 4	Name: Conduct an IT Asset Inventory							Source: [IT ORG]	
<p>Findings:</p> <p>The TID Organization Focus groups revealed the current procedures addressing the whole life cycle (acquiring to dispositioning) of assets are not adequate. TID cannot provide inventory with a level of confidence. (This was worsened by Covid; in the past, they could walk around and do the inventory.)</p> <p>This results in the following:</p> <p>Security impacts, TID does not know where things are, e.g., compromised computers. May not be able to address this equipment quickly.</p> <p>It is hard to estimate computer replacements, e.g., 12-year-old computers, including software and peripherals.</p> <p>Recommendations:</p> <p>Complete an inventory of laptops, desktops, iPhones, iPad, Windows Tablets, etc. to help with computer replacements, the TID MOU, and response to security incidents.</p> <p>Outcomes:</p> <ul style="list-style-type: none">• Cost savings.• Reduce audit risks.• Reduce risk of losing assets.• Eliminate waste.									
Potential Alignment									
Themes <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance					City Priorities <ul style="list-style-type: none">• SV2030				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score	
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.67	
1	3	5	3	5	1	1	19		

E SW Enterprise Software

E SW 1	Name: Enhance Human Resource Management System	Source: [MI, ITFG INF, SS]
<p>Findings: The need for Human Resource Information Systems (HRIS) was noted in several project tasks.</p> <p>Online Staff Survey</p> <ul style="list-style-type: none"> ▪ “Budget and HRMS system should be streamlined to avoid having to work with two charts of accounts and redundant efforts for Finance.” ▪ “HRMS is outdated.” ▪ “Need to get HR stuff automated - Green Timesheets.” ▪ “HR systems are archaic and difficult to use and train others on.” ▪ “Should be an easier way to distinguish different department’s Position Control (HR vs Budget) - Unsure what is needed from TI vs HR (or from specific departments) - like LifeView/NeoGov/LEARN etc. - and where to get. Confusing when getting for new employees (from new employee perspective as well as whoever’s working with TI to get things set up for them).” ▪ “HR/Payroll systems are outdated and inefficient. Waste a lot of paper on timecards.” ▪ “HR systems such as Lifeview and Bluezone are drastically outdated and are needed to complete everyday payroll and personnel functions.” ▪ “LiveViewHR is the least secure portal when it comes to password protection; that needs improving.” ▪ “Running reports from HRMS is challenging. Control D is extremely outdated and glitchy. Access reports are complicated, and many users struggle with them.” ▪ “Need an HR-specific software that could serve as a portal for departments to submit requests, track status and document approval. Would also supply analytics on productivity and demand for services.” ▪ “HRMS is very only, clunky and lacks proper support.” ▪ “Implement an HRMS - new system. Cross training for staff so that they are able to assist staff when issues arise.” <p>Recommendations:</p> <ul style="list-style-type: none"> • Restart the HRIS replacement project, known as Phase 2. • Conduct a Needs Assessment & Gap Analysis with lessons learned from the previous attempt. • Develop a well-defined plan with stakeholder input, a focus on integration, and clear project accountability to ensure that the new system and project effectively addresses the inefficiencies identified and supports long-term sustainability and security. <p>Outcomes:</p> <ul style="list-style-type: none"> • Recruitment: <ul style="list-style-type: none"> ▪ Streamline business process. ▪ More visibility and transparency. ▪ Enhance candidate experience. • Onboarding/Offboarding: <ul style="list-style-type: none"> ▪ Better able to gather and track information when offers are accepted. ▪ Better experience for the employees. ▪ Reduce the manual steps for HR. ▪ More efficient use of staff time. 		

April 3, 2025

<ul style="list-style-type: none"> ▪ Improve security. • Position control: <ul style="list-style-type: none"> ▪ Save staff time. ▪ Consistent data across all systems. ▪ Reduce errors in submitting requests. ▪ Eliminate manually tracking. ▪ More transparency in position assignment and availability. 							
Potential Alignment							
Themes <ul style="list-style-type: none"> • Build and maintain a modern technology ecosystem 				City Priorities <ul style="list-style-type: none"> • SV2030 			
TW Initial Ranking (1, 3, or 5)							Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>
5	1	5	5	1	1	1	19
							1.83

E SW 2	Name: Develop Standard Project Planning & Management Practices and Methodologies	Source: [ITFG OP]						
Findings: The Operations IT Focus Group revealed TID lacks a good project planning tool. In the past MS Project was used, now TID staff use Excel. (Excel offers substantially less functionality, therefore ThirdWave wonders if the issue was lack of Project Management standards and end user training.) This results in the following: <ul style="list-style-type: none">• It is hard to allocate resources, especially for change management.• Unrealistic expectations from TID and City staff. Recommendations: <ul style="list-style-type: none">• Assess current project planning methods• Develop functional and technical project planning and management requirements for TID and department staff.• Perform a formal evaluation of project planning and management software.• Provide Project Management best practice training principles and techniques, e.g. PMBOK and agile.• Provide formal, standard project management training on the selected new tool. Outcomes: <ul style="list-style-type: none">• Improve project planning and resource allocation• Expand collaboration with end users.• Enhance transparency.• Increase the likelihood of successful project delivery, including on schedule, budget, and responsive solutions with high end user acceptance. <hr/> <ul style="list-style-type: none">• Enterprise project management tools offer advanced reporting capabilities, allowing for accurate reporting on project progress, performance metrics, and overall portfolio health.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance				City Priorities <ul style="list-style-type: none">• SV2030				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1.17
1	3	3	5	3	1	1	17	

Web Website/Web Service Delivery

W 1	Name: Enhance City Website and Public Digital Offerings	Source: [ITFG SW, SS, CWS]
<p>Findings: City Website enhancements were identified in a number of tasks which engaged community members. The most prevalent resident feedback was related to implement a good user-friendly search function. Typical comments are provided below:</p> <ul style="list-style-type: none"> • Search Function: <ul style="list-style-type: none"> ▪ "It takes a while to find what I am looking for even when I put keyword/words to search. For example, I was looking for details on a City notice code and could not find anything until 45 minutes later. It was a little frustrating. Also, we kept calling the code enforcer and never responded to our messages. We wanted to understand what needed to be corrected in our property since it was not clear on the letter." ▪ "Search function is suboptimal. Always a challenge to find the document or contact you are seeking. TID does not provide a 21st-century experience for City employees. This slows down responsiveness to residents." ▪ "There is valuable information on the City's website but the search function on the site is useless, terrible. I usually just start with a Google search." ▪ "The search function is horrible, unfriendly, and rarely gets me where I want to be." ▪ "Make the website easier to search for services and add good phone numbers/emails to reach people. Make sure to update the City website with recent information." ▪ "Improve the searchability of City websites." ▪ "An improved search function. Something that is easy-to-use and actually returns good responses." • Class on How to Use City Website: <ul style="list-style-type: none"> ▪ "Provide in-person classes on how to navigate City and School websites. It's not enough to provide digital devices with Internet access. Internet access is too expensive." ▪ Help Chat: "I think all we're missing to make an excellent site is a chatbot." • Online Bill Payment: As a result of the Community Workshop, members recommended the following for Online Bill Payment: <ul style="list-style-type: none"> ▪ City to provide a course on how to use City website and what services are offered to the community. ▪ Ability to connect with a live person when in need of assistance. ▪ Options for older community members that do not have internet access. ▪ Increased security like two-step authentication. ▪ Incentivize community members to enroll in Online Bill Pay by offering discounts to leave paper billing. ▪ Bill Pay Text reminders. ▪ Ability to pay bill via text link. ▪ Streamline the process and make app easier to use. • Animal Care Website: "The website for Animal Care is impossible to locate. And wow, check out that web address you have to enter and the process to buy your online license - from the dark ages!" • Code Enforcement Form: "Code enforcement form submission creates errors on multiple browsers/ platforms." 		

- **City Calendar:**
“Possibly a better calendar that shows everything going on in the City. Whether it's a meeting for a neighborhood representative or a lecture at the aquarium or an exhibit at the museum.”
“Make sure that residents can access the City's calendar for maintenance and planned roadwork. There is a lot of negligence on our corridors. GLB is not accurate for reporting on corridors. Revise issues covered on GLB and ask residents who use it how to improve it!”
- **Schedule Appointments:**
“I would like to schedule appointments online such as trash pick-up, missed trash pick-up, and inspections.”

Recommendations:

- Migrate to a modern, cloud-hosted platform for improved uptime and security.
- Implement a new design with a keen focus on accessibility and user experience.
- Modify content to remain fresh, accurate, and accessible.
- Integrate with other technologies that promote digital services (e.g. digital forms and workflow products.)
- Establish interface requirements for new RFP's, e.g., require connectivity with a centralized appointment scheduling system.
- Prioritize maintainability over customized configuration based on niche business requirements.

Outcomes:

- Enhance customer access to City information and online services.
- Improve customer experience.
- Reduce calls to City staff.

Potential Alignment

Themes

- Provide outstanding customer experience

City Priorities

- SV2030
- REAP

TW Initial Ranking (1, 3, or 5)

**Initial
TID
Avg
Score**

Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1
5	5	3	3	3	1	5	25	

2.4 Operational Recommendations

O 1	Name: Improve Help Desk Documentation, Training, and Customer Satisfaction	Source: [ITFG OP]
<p>Findings:</p> <p>The Ops IT Focus Group revealed that many things have been implemented quickly. Help Desk staff are still struggling to learn all of the changes that have occurred and are providing support. There is a lack of communication and documentation. This results in the following:</p> <ul style="list-style-type: none"> • Help Desk staff give out wrong information. • Department end users are not helped. • Leads to mistrust and frustration between City staff and TID staff. • End users get different answers. <p>The online staff survey revealed staff have strong feelings related to the TID help desk. from both ends of the spectrum.</p> <p>Positive feedback included the following:</p> <ul style="list-style-type: none"> • When asked about TID services, staff rated Collaboration & Communication the highest, followed by the Help Desk. • Typical positive comments included the following: <ul style="list-style-type: none"> ▪ “Help Desk people are great though.” ▪ “Tech Support and Help Desk continue to be amazing (responsive, helpful) and I very much appreciate the ongoing high level of customer service that I receive.” ▪ “The Help Desk team is always polite and very helpful.” <p>Numerous comments related to Help Desk services identifying required improvements are listed below:</p> <ul style="list-style-type: none"> • “TID Help Desk is nonexistent.” • “Technical support and Help Desk are all but useless. Urgent matters that totally stop my workflow as an officer are addressed in days and weeks.” • “Need more help desk technicians.” • “The Help Desk can be extremely frustrating.” • “I have not found the Help Desk to be particularly useful.” • “Often times the Help Desk is not very helpful or I receive an attitude.” • “Help Desk customer service needs improvement, as well as the teams assigned to complete tasks.” • “The Help Desk can use some knowledgeable people to help troubleshoot during a call, instead of just entering a ticket and wait for someone to connect and fix the issue.” • “There needs to be follow-up in Help Desk requests.” • “Help Desk response is slow, really slow.” • “Help Desk personnel should be friendly and helpful.” • “As a 24/7 department, additional hours for the Help Desk 26 would be helpful.” • “Help Desk staff are not empowered to solve technical problems and only open tickets. Instead of waiting days for follow-up, it would be very helpful to have frontline staff trained to troubleshoot and solve routine issues.” 		

<p>Recommendations:</p> <ul style="list-style-type: none"> Identify a consultant to assess the current state of the Help Desk and create recommendations for: <ul style="list-style-type: none"> Produce better documentation. Provide better training and cross training, including technical and customer service training. Expand the creation of knowledge base articles. Provide staff time to learn. Carry out a skillset assessment of Help Desk staff knowledge, skills, and abilities to determine strengths and knowledge gaps, compared to assigned support roles. Explore restructuring the help desk or obtaining additional staff. Adopt tools, AI that listens to the caller, and provides advice. Adopt AI-based tools to assist Help Desk staff in identifying solutions and identify knowledge base articles that need to be drafted. Adopt a one-stop, one-call customer service policy, where a Help Desk staff assumes accountability for resolving the end user's challenge. <p>Outcomes:</p> <ul style="list-style-type: none"> Better support and customer satisfaction. Faster resolution for end users. Better trust. Reduced staff frustration. Better communication. Establish a consistent level of support for all City staff, provided by Help Desk staff. 								
Potential Alignment								
<p>Themes</p> <ul style="list-style-type: none"> Provide outstanding customer experience 				<p>City Priorities</p> <ul style="list-style-type: none"> SV2030 				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber- security	Digital Equity	<i>Total</i>	1.17
1	3	1	3	1	1	1	11	

O 2	Name: Expand Security Monitoring and Incident Response Capacity	Source: [ITFG INF]						
Findings: The Infrastructure Focus Group with TID staff revealed TID does not have robust incident response. The City does not have a true Network Operation Center (NOC).								
Recommendations: <ul style="list-style-type: none">• Develop RACI and business impact analysis of services for business Continuity Of Operations (COOP).• Expand the capabilities of our existing monitoring system to monitor all critical computing services and enable existing 24x7 data center staff to provide NOC services.• Implement solution to enhance monitoring our externally facing services and sites.• Implement data loss prevention solution.								
Outcomes: <ul style="list-style-type: none">• Stronger security.• Able to execute DR more quickly.• Faster response to security incidents.• Earlier detection of security events.• Faster Remediation of security events.• Increased up time of network and applications, which leads to increase up time of City services.								
Potential Alignment								
Themes Keep data, systems, and people safe from harm.				City Priorities <ul style="list-style-type: none">• Public safety• SV2030• 2028				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
1	3	1	3	1	5	1	15	

April 3, 2025

O 3	Name: Improve Usability of Internal Services Fund MOU				Source: [IT ORG]			
<p>Findings: The Operational Focus Group with TID staff revealed TID does not have a clear way on how they charge departments, and the benefits departments are getting. This results in the following:</p> <ul style="list-style-type: none">• Hard to justify the investment asking for more resources to the City Manager/Budget Office.• Department conflict and complaints because they do not see the value.• Projects come in at cost that are not included in the MOU. <p>Recommendations:</p> <ul style="list-style-type: none">• Work on redesigning the MOU and communicate it to departments.• Engage a consultant to redesign MOU• Explore software products to create the MOU and improve billing• Explore possibility of incorporating SLAs into MOU <p>Outcomes:</p> <ul style="list-style-type: none">• Clear understanding of what is included in the MOU or not.• Work on the process to implement this, e.g., IT governance.• Better trust.• Better resource allocation.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance					City Priorities <ul style="list-style-type: none">• SV2030			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.5
1	3	1	3	1	3	1	13	

O 4	Name: Establish Workstation OS Practice and Supported End User Applications	Source: [ITFG HW]						
Findings: <ul style="list-style-type: none">• The Hardware Focus Group with TID staff revealed the department is unable to stay current on workstation Operating Systems. This results in the following:• Reduced security.• Increased risks.• Application can only run on earlier version.• Keep that device from running newer applications. Recommendations: <ul style="list-style-type: none">• Ensure applications (e.g. Microsoft Office Suite) and hardware are kept current, up to date technology.• Ensure that operating system (OS) versions are currently supported versions for the best, most secure computing experience• Windows - https://learn.microsoft.com/en-us/lifecycle/products/windows-10-enterprise-and-education• Mac and iOS - https://support.apple.com/en-us/100100• Ensure that desktop applications are currently supported by the vendor (i.e. Adobe, Zoom, Chrome, AutoDESK, SnagIt, etc.)• Work with the other TID Bureaus to ensure that the applications they support will run on supported OS versions.• Develop a funded OS replacement plan and software asset management plan Outcomes: <ul style="list-style-type: none">• More secure technology environment• Reduce costs relating to paying for extended support as well as support costs of related to troubleshooting issues with unsupported software or operating systems.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Build and maintain a modern technology ecosystem		City Priorities <ul style="list-style-type: none">• SV2030						
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1
1	1	1	1	1	1	1	7	

O 5	Name: Document Processes and Services and Establish KPIs and SLAs	Source: [ITFG ORG]						
Findings: The Hardware Focus Group with TID staff revealed a lack of documentation on defined processes and standard operating procedures, including the following: <ul style="list-style-type: none">• Lack of documentation, both for internal process, SOPs and end users.• Staff responsibilities.• Do not have published KPIs.• Lack SLAs. The foregoing results in the following: <ul style="list-style-type: none">• Help Desk gives out wrong information to users.• Poor end user support.• End users cannot function in the jobs properly.• Can cause security risks if the Help Desk does not follow protocol and changes a password or gives the user administrative rights on their computer. Recommendations: <ul style="list-style-type: none">• Articulate KPIs and Performance Metrics.• Adopt Service Level Agreements.• Produce data dashboards for services provided.• Produce a service catalog• Acquire an AI tool that populates a database from several sources, and prompts staff to help them do their job better. Outcomes: <ul style="list-style-type: none">• Staff can improve what they do.• Build more trust with partner departments, they would know what to expect.• Better service delivery, and their services to the community.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance				City Priorities <ul style="list-style-type: none">• SV2030				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
3	1	1	3	1	1	1	11	

April 3, 2025

O 6	Name: Develop an Enhanced Data Protection Policy		Source: [ITFG HW]					
<p>Findings:</p> <p>The Hardware Focus Group with TID staff revealed that, sometimes, backup retention is not long enough and data is lost when restoring data. TID does not have a consistent policy. This results in staff losing data.</p> <p>Recommendations:</p> <ul style="list-style-type: none">• Draft a new and comprehensive Data Protection policy that goes deeper (Database full, incremental, and transaction logs)• Adopt a consistent back up policy for all data (OS, AVD, etc.), Oracle, and SQL.• Develop dashboard view to provide visibility of backup success, failures, and remediation.• Perform periodic unscheduled restore testing.• Conduct recovery testing every six months.• Enable cloud-based disaster recovery <p>Outcomes:</p> <ul style="list-style-type: none">• Ensure that all data is backed up and offsite copies are produced.• Ensure backups are protected from cyber events.• Ability to recover to a point time prior to any critical need or data loss.• The city can continue to provide services and conduct business in the event of a local disaster.								
Potential Alignment								
Themes <ul style="list-style-type: none">• Keep data, systems, and people safe from harm.			City Priorities <ul style="list-style-type: none">• SV2030					
TW Initial Ranking (1, 3, or 5)				Initial TID Avg Score				
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1
1	3	1	1	1	1	1	9	

O 7	Name: Enhance Business Continuity Plan	Source: [ITFG OP]						
<p>Findings:</p> <p>The Operations Focus Group with TID staff revealed TID lacks a Business Continuity Plan that is communicated to everyone. This results in the following: If systems go down, department cannot function. Department operations stop. City residents cannot access services.</p> <p>Recommendations:</p> <ul style="list-style-type: none">• Conduct organization-wide business impact analysis.• Identify essential (critical) business activities and resources.• Identify critical processes.• Establish impacts• Prioritize recovery efforts and planning• Establish critical dependencies• Develop mitigation strategies• Take the existing business continuity plan and elaborate on all technology sections.• Review with Departments and get City Manager's Office approval.• Share the BC Plan.• Implement an automated Disaster Recovery test suite, to see what apps are down and communicate it.• Train key stakeholders, who to contact, and the SMEs. <p>Outcomes:</p> <ul style="list-style-type: none">• Less down time.• Faster recovery.• Faster communication.								
<p>Potential Alignment</p>								
<p>Themes</p> <ul style="list-style-type: none">• Keep data, systems, and people safe from harm.		<p>City Priorities</p> <ul style="list-style-type: none">• SV2030• Public safety• 2028						
<p>TW Initial Ranking (1, 3, or 5)</p>								<p>Initial TID Avg Score</p>
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
1	3	1	3	3	1	1	13	

O 8	Name: Implement Critical Needs 2.0 Technology	Source: [TID ORG]
<p>Findings:</p> <ul style="list-style-type: none"> • Discussion with the TID Leadership Team underscored the very important need to fulfill Critical Needs 2.0 technology replacements, upgrades, and maintenance. • Critical Needs 2.0 technology is defined as any foundational Citywide infrastructure, equipment, and systems in any City facility that must be replaced and / or modernized or are at end of life. Failure to do so may interrupt key City services and expose City systems to cybersecurity risks. These needs generally impact all City Departments. • Implementation of Critical Needs 2.0 technology is vital not only to sustain City operations but also to prepare itself to host the 2028 Olympic Games. <p>Recommendations:</p> <ul style="list-style-type: none"> • Finalize Critical Needs 2.0 Plan, including lifecycle and replacement needs for each application, hardware, or service. • Implement Critical needs 2.0 technology. This may include: <ul style="list-style-type: none"> ○ Network Wiring ○ Upgrade analog paging systems to Voice over Internet Protocol (VoIP) ○ Library Network Modernization ○ Cradlepoint Upgrades ○ Citywide Network Infrastructure Upgrades ○ Uninterruptable Power Supply (UPS) Maintenance & Upgrades ○ UPS Labor Replacement ○ Fiber Management software to detect faults ○ Fiber Master Plan - Hardware for network ring connectivity ○ Dense Wavelength Division Multiplexing (DWDM) monitoring ○ DWDM Ring Fiber Hardware Yearly Maintenance ○ Multi-Year effort to modernize or cloudify old servers. ○ Implement Zero Trust physical network security ○ Additional WiFi and Cameras throughout the City ○ Citywide Access Controls ○ Police Department CLETS (California Law Enforcement Telecommunications System) Modernization ○ Internal & External Software Deployment ○ Security Access Upgrade ○ Data Governance Program ○ Dynamic Application Security Testing ○ Council Chambers Upgrades ○ Conference Room Upgrades ○ Office Upgrades ○ Main Library Meeting space upgrades ○ Branch Library Meeting space upgrades ○ HR/Payroll system replacement ○ Computer Aided Dispatch (CAD) and Records Management System Refresh ○ Council Chambers Upgrades ○ Conference Room and Meeting Space Upgrades <p>Outcomes:</p> <ul style="list-style-type: none"> • Modern technology infrastructure to enhance security and the continuation of providing critical services to the City's residents, businesses, visitors. <p>Potential Alignment</p>		

April 3, 2025

Themes <ul style="list-style-type: none">Keep data, systems, and people safe from harm.Build and maintain a modern technology ecosystem				City Priorities <ul style="list-style-type: none">SV2030Public safetyHousing and homelessnessEconomic development2028				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

2.5 Management Recommendations

M 1	Name: Conduct Inventory of City Staff Training Needs	Source: [SS]
<p>Findings: The City Staff Online Survey revealed a significant need for end user training, primarily in the use of a variety of mission critical application software.</p> <p>When staff were asked the following questions: <i>Rate the overall condition of the technology systems you use. (This question includes software, hardware, applications, TID services, etc.)</i> approximately 26% of responses selected “Needs Improvement/Poor.” Of the specific items noted in the “Comments,” end user training was consistently mentioned. The following sample quote illustrate the current state of end user training.</p> <ul style="list-style-type: none"> • “Software is not great and there is no real training for any of it, so most staff don’t use it. Many of our systems are still on paper.” • “Minimal training on systems that are new and/or systems already implemented. No refresher training.” • “I wish I can get blasts about TID training, sometimes my staff just needs basic training and I’m sure it’s on our website but I have been here for 5 years and no one has shown me where that is.” • “The applications may be available but the training and understanding of the uses is not readily understood.” • “There is 0 training on software.” • “I have not received training on any systems or changes.” • “It would be great to have a training or reference manual automatically provided when you get a new system installed as a new or transferred staff.” • “New employees are not formally trained on ANY of these systems EVER.” • “Departments need TI training that focuses on tech tools to improve efficiency.” <p>In many cases staff identified specific training requirements:</p> <ul style="list-style-type: none"> • “For Crystal Reports, is it possible to get a training on how to use the software? I have it installed but do not have anyone at my bureau to train me on how to use it.” • “Need additional training in Power Automate.” • “Training for new users of the City’s systems is lacking. Simpler, Munis, etc. - if someone’s coming in fresh this is VERY challenging to learn to use. I have personal beef with the HRIS system and the fact that no training exists on how to use it and no support exists for the system as well. Learning to use it is literally learning in reverse.” • “No training for Laserfiche provided/or is there one online?” <p>The impacts of a lack of formal end user training results in the following:</p> <ul style="list-style-type: none"> • Underutilization of technology, not reaping the full potential return on investment. • Lowered levels of end user acceptance. • Staff frustration, stress and impacts to morale when staff are expected to perform certain jobs, but lack the tools to do so. • Not fully leveraging workflow automation, limiting the City’s workforce productivity. • Impacted service delivery to the public. 		

<p>Recommendations:</p> <ul style="list-style-type: none"> • Build capacity (through additional staff or contractors or partnerships with HR and power users with specific departments) to conduct assessment of training deficiencies • Carry out a detailed assessment of training deficiencies for all City departments. • Identify resources required to address deficiencies. • Document enterprise-wide training requirements. • Articulate a standard training policy to ensure a minimal level of staff training and proficiencies across all departments. • Develop a City staff training strategy, roadmap and training options: <ul style="list-style-type: none"> ▪ High-priority software that would benefit from training resources ▪ Software Vendors. ▪ 3rd Party Training. ▪ TID Staff, possible the Business Operations Bureau (who has the responsibility). <p>Outcomes:</p> <ul style="list-style-type: none"> • Enhanced staff productivity. • Improved service to the public. • Maximize the return on investment in IT. • Improved staff morale. • Improve the City's hiring posture through the use of emerging technologies. 								
Potential Alignment								
<p>Themes</p> <ul style="list-style-type: none"> • Provide outstanding customer experience. 				<p>City Priorities</p> <ul style="list-style-type: none"> • SV2030 				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	2
5	3	3	3	3	1	3	21	

M 2	Name: Develop a Strategic Plan for Hiring	Source: [MI, ITFG HW]
<p>Findings: The issue of TID staff resources came up in several project tasks including the Management Interviews, TID Organization Focus Groups, TID IT Focus Groups.</p> <ul style="list-style-type: none"> • Management Interviews: <ul style="list-style-type: none"> • When asked to rate the adequateness of TID Staffing Levels, Technical Knowledge and Budget, Staffing Levels was the lowest rated facet of the TID organization. 22 of 44 of department heads rated staffing level as Satisfactory/Poor. • Not being able to fill vacant position quickly enough with qualified staff. • TID has a vacancy rate of approximately 20%, which is untenable at the present, and will pose a significant impediment to the implementation of TID28. • TID is very resource constrained. • Replacing the permitting system caused a pause of the HR system. They are not staffed to provide the day-to-day support that is needed, and staff have multiple projects. <p>According to the City's leadership team, the foregoing results in the following:</p> <ul style="list-style-type: none"> ▪ TID is resource constrained. ▪ Delayed projects. ▪ Impacted service levels. <ul style="list-style-type: none"> • TID IT Focus Groups: The TID Focus Groups revealed the following related to staffing resources: <ul style="list-style-type: none"> • Do not have the staffing support to keep up with day-to-day operations. • Salary/wage compensation for vacant positions may not attract qualified and experienced resources (this is an issue across the board). <p>According to TID staff, the foregoing results in the following:</p> <ul style="list-style-type: none"> • Do not have the staff to keep up with cabling. • Slow response to project requests and incidents. • Unable to keep up with upgrades to firmware of some of the equipment. • Unable to meet PCI compliance. • Unable to achieve projects from other bureaus, divisions, and departments. • Creates a backlog, projects become a bottleneck. • Support risk of by being single threaded. • Technical professionals do not apply for open positions. • Potential new hires turndown offers. • City does not recruit technical professional resources. <ul style="list-style-type: none"> • TID Organization Focus: The TID Focus Groups revealed the following related to staffing resources: <ul style="list-style-type: none"> • Insufficient resources to adequately focus on new projects, as well as maintaining day to day support. • Have open positions, driven by civil service delays (3-year list). <p>According to TID management, the foregoing results in the following:</p> <ul style="list-style-type: none"> • Lack of time to fully support applications, and what that really means. Responding to user requests, adding new functionality, performance evaluations in a timely manner. • Staff end up focusing on day-to-day tasks, rather than the health of the environment and transformative project work. 		

April 3, 2025

<ul style="list-style-type: none"> Impacts service delivery to customers, especially Police and Fire. During critical situations, extremely long and continuous hours are spent by key resources on remediation efforts. No qualified backup to take over. Basic coverage issues when key resources are out of the office. <p>Recommendations:</p> <ul style="list-style-type: none"> Develop strategic plan for hiring, including working with all hiring managers, that includes: <ul style="list-style-type: none"> Conduct benchmarking of staff and services Compensation study Conduct a analysis of TID's staffing allocation in various service areas to determine if needs are aligned with staffing levels. Update technical classifications, based on priority <p>Outcomes:</p> <ul style="list-style-type: none"> Sufficient resources to provide required professional services to city staff and residents. Adequately support applications. Strategic Project decisions to facilitate depart goals and objectives. Expedite filling open positions. Enhances services to departments, particularly to Police and Fire. Provides staff with appropriate work/life balance. 								
Potential Alignment								
Themes <ul style="list-style-type: none"> Attract and retain top talent. 					City Priorities <ul style="list-style-type: none"> SV2030 			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1.67
5	3	3	3	1	3	3	21	

M 3	Name: Establish PMO and Project Management Standards	Source: [ITFG OPS, IT ORG]
<p>Findings: Several project tasks addressed the need for Project Management and Project Management Office (PMO).</p> <ul style="list-style-type: none"> IT Focus Groups: Revealed the lack of a centralized Project Management Office in TID, which results in the following: <ul style="list-style-type: none"> Delayed projects. Have to hire contractors to be Project Managers. Higher costs. Lack of cross communication. Lack of standardization and deliverables. <p>The IT Focus Groups reveal a lack of a change management structure, no one with experience doing change management, for instance a team, skills, and methods. Change management approaches are inconsistent. This results in:</p> <ul style="list-style-type: none"> No buy-in in the process change or implemented systems. Changes may not be appropriately vetted. TID Organization Workshop: The workshop with TID management revealed a challenge related to span of control: the CIO is spread out too thin. This can result in areas with lax controls, e.g., cybersecurity and may impact prioritization of work. Management Interviews <ul style="list-style-type: none"> The management interviews revealed a need for change management: Infrastructure Services Bureau Manager. TID Enterprise Information Services: noted the lack of a robust change management process. Although it seems this was related to system changes. <p>Recommendations:</p> <ul style="list-style-type: none"> Build capacity (contractor, staff) to establish PMO standards Implement a centralized PMO including: <ul style="list-style-type: none"> Governance: requirements, project intake, prioritization, validation, specifications by IT for procurements, approval by executive Create a mechanism to track and respond to project demand in an objective manner. Establish standards/guidelines for projects including process reengineering, change management, etc. Articulate and adopt a TID change management best practice. <p>Outcomes:</p> <ul style="list-style-type: none"> Improved intra-departmental coordination of projects and initiatives. More secure and effective technology solutions and services, allow TID better serve residents. On time project delivery. Meet customer expectations. Enhanced customer service and satisfaction. Projects will be delivered in a standard manner. Better position TID to better support customers. 		

April 3, 2025

<ul style="list-style-type: none"> Improved transparency. Projects will be done on time. Quicker adoption and end user acceptance of new technology and process. Fosters knowledge transfer. Quicker delivery of technology. Successful outcomes. Project reissuance. 								
Potential Alignment								
Themes <ul style="list-style-type: none"> Optimize services through equitable, data-informed governance 					City Priorities <ul style="list-style-type: none"> SV2030 			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1.83
3	3	3	5	3	1	1	19	

M 4	Name: Establish Modern TID Staff Training Standards	Source: [ITFG ORG]
<p>Findings: The TID Organization Focus Group explored training requirements and revealed the following.</p> <ul style="list-style-type: none"> • Digital Service Bureau Staff operate in deep operational grooves. The Police support staff know their systems and nothing else. The same applies to staff working in other departments. This results in single points of failure. This can be an annoyance if the employee is out for scheduled leave and may potentially cause serious lapses in service if an employee leaves their job unexpectedly. • Enterprise Information Services Bureau The focus group with the Enterprise Information Services Bureau revealed this bureau's staff have a mismatch of skillsets to meet current and future technology requirements, e.g., data proficiencies, which results in: <ul style="list-style-type: none"> ▪ Inadequate governance of technical projects. ▪ Not understanding what is needed to implement technical projects and provide ongoing technical support. ▪ Overreliance on individuals. • Executive Office: The focus group with the Executive Office revealed there is a lack of business training for TID staff, which results in: <ul style="list-style-type: none"> ▪ Not having a standard way of doing things. ▪ "This is the way we've always done it" thinking. ▪ Status quo, resistance to change. ▪ Additional mistrust, between TID and customers, City and community. ▪ Lack of clarity on TID staff roles. ▪ There is not a clear "north star" on what staff should be doing, a vision. • Business Operation Bureau: The focus group with the Business Operations Bureau revealed a lack of leadership training (for all managers in TID), including the lack of cross training with financial staff. This results in: <ul style="list-style-type: none"> ▪ The City does not prop up managers. ▪ Most managers are working managers and the lack of the time and space to think strategically. • Infrastructure Services Bureau: The focus group with the Infrastructure Services Bureau revealed a lack of training on cloud-based applications and platforms. This results in a lack of formal training, there is no rigor or formality: <ul style="list-style-type: none"> ▪ No scientific method. ▪ Systems may or may not be secure, scalable, and/or optimized. <p>Recommendations:</p> <ul style="list-style-type: none"> • Establish a formal cross training program in the form of job sharing, job rotations, or other similar functions. (This will be challenging, especially with embedded staff critical to departmental operations.) Job rotations should be done for long intervals to ensure staff have adequate time to acclimate and do more than merely keep the lights on. • Establish succession planning standards within teams 		

- Establish training expectations for staff:
 - Cloud-based trainings
 - Establish expectations for engaging in training at least 4 hours per week.
 - Identify the nexus between staff interest and department needs.
 - Develop a curriculum and learning courseware.
- Allocate funding for the foregoing.
- Provide incentives for self-learning and improvements. Reimbursement with passed test and certifications.

Outcomes:

- Reduce single points of failure.
- Provide opportunities for staff to work in other areas and learn new technologies.
- Staff may become more marketable due to skills gained.
- Partner departments will forge new relationships with TID staff.
- A more modern workforce.
- More stable and secure solutions.
- Improve confidence and morale.
- Increase employee value.
- Increase productivity and efficiencies
- Improve employee morale.
- Create a learning organization.
- Establish a core competency level.
- Mitigate tickets.

Potential Alignment

Themes

- Attract and retain top talent.

City Priorities

- SV2030

TW Initial Ranking (1, 3, or 5)

**Initial
TID
Avg
Score**

Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.83
3	3	3	5	3	1	3	21	

M 5	Name: Adopt a Formal IT Governance Process	Source: [ITFG HW OPS]
<p>Information Technology (IT) Governance is a best practice to implement business controls that entail the proper requirements definition, planning, approving, budgeting and purchasing of Information Systems and professional services. Adopting IT Governance often requires cultural changes in how Information Technology and IT Departments are perceived by an organization – an integral, strategic resource to the City and community.</p> <p>Implementing IT Governance necessitates reconsidering the relative importance assigned to planning, implementing and supporting strategic IT. IT Governance process, policies and practices entail clearly defined activities:</p> <ul style="list-style-type: none"> • Project Planning. • Functional & Technical Performance Specifications. • Justification. • Budgeting. • Approving. • Purchasing of IT products or services. <p>Findings: The Hardware and Operations Focus Groups with TID staff revealed that TID does not have IT Governance. This results in the following:</p> <ul style="list-style-type: none"> • Departments purchase technology without informing TID. • Makes it difficult for TID to support unknow devices and technologies. • Departments feel IT Governance slows their processes. • May result in rework, or cause more problems, to match what departments have procured. • More costly system procurements. • Lack of interoperability. • Sometime departments do not know TID may already have that solution. <p>Recommendations:</p> <ul style="list-style-type: none"> • Adopt a formal yet simple IT Governance best practice process (e.g. ITIL) as part of TID28 including requirement's definition, validation, specifications and business case for management review. • Adopt an IT Governance process providing business controls on the planning, procurement and implementation of Information Technologies. • Adopt well-defined roles of all stakeholders (TID and department staff) and policies so that all departments feel engaged and experience the value of IT Governance. • Executive staff establish a formal and simple IT Governance process, supported by articulated policies and practices. • Do IT projects with establishing organizational awareness, identifying and sharing desired outcomes with departments. • Employ an RFP process wherever relevant, with mandatory requirements definition, functional and technical specifications. • Recognize the City has significant negotiating power, identify are non-negotiable items in the RFP, including insurance requirements. • Plan and fund for TID initiative for long term sustainability. 		

<p>Outcomes:</p> <ul style="list-style-type: none"> • Identify IT requirements responsive to the unique needs of each department and the community. • Specify IT solutions and plan for required staff resources for successful IT implementations. • Vet proposed projects prior to procurement to ensure best value investments in IT • Allow the City to procure standard and strategic Information Technologies. • Ensure department do not purchase project without IT department knowledge and engagement. • Ensure a common IT Enterprise Architecture. • Ensure TID can support all procured technologies. • Prioritize IT initiatives to maximize the investment of tax dollars, cost savings. • Improve the delivery of solutions customers really need. • Optimize investments in IT by eliminating the procurement of duplicate technologies and taking advantage of economies of scale. • Opportunity to do things better, faster. • Align technologies with City's business strategy. • More efficient and effective City services. • Streamlined processes. • Build trust across department. • Improve accountability. • Enhance transparency. 								
Potential Alignment								
<p>Themes</p> <ul style="list-style-type: none"> • Optimize services through equitable, data-informed governance 					<p>City Priorities</p> <ul style="list-style-type: none"> • SV2030 			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	1.83
3	3	3	5	3	1	1	19	

M 6	Name: Formalize Technology Purchasing Practices	Source: [ITFG SW, OPS]						
<p>Findings:</p> <p>The software and operations TID Focus Group revealed issues related to purchasing of Information Technologies, where business departments publish RFPs and do not include TID until the end of the process. This practice results in several adverse impacts:</p> <ul style="list-style-type: none">• Purchased software and hardware may not be consistent or compliant with the enterprise architecture of the City.• If the software involves payment processing, the software selected by the department may not be PCI compliant.• The purchased systems may not be supported by TID staff.• Purchased systems may be proprietary, and not support contemporary system requirements, Service Oriented Architecture, Web Services, etc. <p>Recommendations:</p> <ul style="list-style-type: none">• Include purchasing and acquisition standards in new IT Governance process, with supporting policies.• Functional and technical requirements, including reprint, interface and data migration specifications should be developed (either by TID or a third-party) and included in solicitations, as appropriate.• Add verbiage to the RFP process, if there is a business need to perform a payment process, TID Cybersecurity needs to be involved.• If contracting out work to vendors, which involves payment processing, the RFP needs to include statement on the vendor providing PCI documentation at time of RFP. <p>Outcomes:</p> <ul style="list-style-type: none">• Procure strategic systems.• Take advantage economies of scale.• Enhance the ability for the City to achieve technology standards and supportable systems, e.g., PCI compliance.• Reduce spending on HIPAA/PCI compliance.• Enhance the synergy between TID and Business departments.								
<p>Potential Alignment</p> <table><tr><td><p>Themes</p><ul style="list-style-type: none">• Optimize services through equitable, data-informed governance</td><td><p>City Priorities</p><ul style="list-style-type: none">• SV2030</td></tr></table>			<p>Themes</p> <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance	<p>City Priorities</p> <ul style="list-style-type: none">• SV2030				
<p>Themes</p> <ul style="list-style-type: none">• Optimize services through equitable, data-informed governance	<p>City Priorities</p> <ul style="list-style-type: none">• SV2030							
<p>TW Initial Ranking (1, 3, or 5)</p>								<p>Initial TID Avg Score</p>
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	Total	2
3	3	3	5	3	1	1	19	

M 7	Name: Assess Employee Lifecycle Management Needs	Source: [ITFG OP]
<p>Findings:</p> <p>The TID Operations Focus Group revealed the following:</p> <ul style="list-style-type: none"> • Onboarding and Offboarding: multiple departments have to work through tickets. • The lack of automation. • Sometimes new staff do not get what they need on day one. <p>This results in the following:</p> <ul style="list-style-type: none"> • Staff cannot be productive. • On the offboarding/transferring side, leave themselves open for security risks. <ul style="list-style-type: none"> • ITG Ops, Infrastructure Service Bureau The Infrastructure Service Bureau focus group revealed inefficient and cumbersome new employee onboarding and offboarding processes, and employees transferring into a new role/organization. This results in the following: <ul style="list-style-type: none"> ▪ Causes multiple groups to touch tickets. ▪ The onboarding process is single threaded and slow. ▪ New hires do not always have everything they need set up by day one. ▪ Onboarding can leave the City exposed to security issues from accounts not being cleaned up. • Management Interviews The Finance Management revealed the onboarding process is really decentralized. HR, Admin Staff in Finance, and TID are all involved, but there is not any reference guide on how the process can be streamlined to make sure everyone has the tools on day one, e.g., Customer Service Reps need email and access to a package of systems. Sometimes it can take a month to get staff what they need. • TID Focus Group The Software IT Focus Group with TID staff revealed the onboarding process lacks automation, onboarding and offboarding involves multiple departments working through tickets. <p>The foregoing results in the following:</p> <ul style="list-style-type: none"> • Sometime new staff do not get what they need on day one. • Staff cannot be productive. • On the offboarding/transferring side, they leave themselves open for security risks. <p>Recommendations:</p> <ul style="list-style-type: none"> • Develop workplan to standardize and automate the employee lifecycle management process where possible in collaboration with HR • Implement assessment findings: Automation for creating workflows for onboarding, transferring, and offboarding. • Adopt workflow automation for key business processes, e.g., onboarding, transferring, and offboarding. • Collaborate with HR. 		

April 3, 2025

Outcomes: <ul style="list-style-type: none"> • Improve security to systems and network. • Improve Human Resource processes: position control, onboarding, HR life cycle, and off-boarding. • Business process improvement. • Enhance efficiencies. • Reduce new hire frustration on day one. 								
Potential Alignment								
Themes <ul style="list-style-type: none"> • Optimize services through equitable, data-informed governance 					City Priorities <ul style="list-style-type: none"> • SV2030 			
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	1.5
1	3	3	3	1	1	1	13	

M 8	Name: Establish Data Governance Framework	Source: [SS]
<p>Findings: Lack of a data store. This results in:</p> <ul style="list-style-type: none"> • Batch schedules. • Performance impact, pulling data. • Causes additional computing resources to get things, • Increase the number of servers (every application has its own reporting service), servers, database licenses, and computing time. <ul style="list-style-type: none"> • Satisfaction with Data Services: Only 3.81% of staff rated data and analytics services as "Excellent," while 68.92% rated them as "N/A," signaling a lack of engagement or insufficient services in data management. • Data Analytics and Transparency: While leadership recognizes the importance of data analytics (15 out of 20 rating it as very important) and transparency (19 out of 20 rating it as very important), <u>staff indicate that the City struggles with analytics capacity and data sharing, particularly across systems.</u> • Staff survey: <ul style="list-style-type: none"> ○ Cybersecurity and Data Management: Concerns about data security and the need for workflow systems with higher levels of security were raised. Staff also highlighted difficulties in accessing and analyzing data due to i resources, lack of training, and challenges with system integration. ○ Data Storage and Sharing: The City lacks cohesive strategies for data storage and sharing, both internally and with external partners, which hampers its ability to leverage data for equity-driven decision-making and effective service delivery. <p>The City of Long Beach faces significant challenges in modernizing and strengthening its data management practices to support its strategic goals, particularly in achieving the 2030 Vision and advancing Race Equity efforts. The current decentralized data culture across departments undermines the City's ability to solve complex problems and organize collective impact efforts. Without a comprehensive data strategy and governance framework, the City is limited in its capacity to access, manage, and leverage data for decision-making, assessing service delivery, community engagement, managing change efforts. To address these issues and enhance its ability to respond effectively to evolving community needs, the City must implement a unified data strategy and governance framework that aligns with its overarching strategic goals.</p> <p>Key Issues:</p> <ul style="list-style-type: none"> • Decentralized Data Culture: Varying data management practices across departments impede efficient data sharing and analysis, limiting the City's ability to coordinate efforts and address systemic issues collaboratively. • Inadequate Data Management Practices: A lack of standardized practices negatively affects data accessibility, accuracy, and security, hindering departments' ability to use data to inform and improve decision-making. • Cybersecurity Vulnerabilities: With recent cybersecurity threats, the City is increasingly vulnerable to data breaches, underscoring the urgency for robust data protection measures that a unified data strategy could help establish. 		

<p>Recommendations:</p> <ul style="list-style-type: none"> • Conduct needs assessment for a citywide data strategy and data governance framework <ul style="list-style-type: none"> ◦ Assess staffing and skills gaps • Develop and implement a data governance framework • Implement data store / warehouse along with other infrastructure that comes from needs assessment <p>Outcomes:</p> <ul style="list-style-type: none"> • Improved performance. • Easier and faster to write reports. • De-normalized data, can join data from various sources. • Cost savings. • By instituting a comprehensive data strategy and governance framework, the City of Long Beach will enhance its capacity for data-informed decision-making, improve cybersecurity, and foster collaboration across departments. This framework is essential for supporting key initiatives in strategic management, racial equity, and performance improvement while also enhancing transparency and trust between the City and its residents. 								
Potential Alignment								
<p>Themes</p> <ul style="list-style-type: none"> • Optimize services through equitable, data-informed governance 				<p>City Priorities</p> <ul style="list-style-type: none"> • SV2030 • REAP 				
TW Initial Ranking (1, 3, or 5)								Initial TID Avg Score
Requirements Gathering	Improved Cust. Experience	Bus. Process Improv.	Oper. Effect.	Cost Savings / Cost Avoid.	Cyber-security	Digital Equity	<i>Total</i>	-
-	-	-	-	-	-	-	-	

PART B Implementation Roadmap



Section 3 Introduction



3.1 Introduction to the TID28 Implementation Roadmap

This section provides an implementation roadmap for TID28, including the prioritized and phased implementation of Information Technology initiatives. The Roadmap addresses the acquisition and implementation of strategic business technologies, in addition to addressing the sustainability of the TID28 Roadmap with IT human resources.

Part A of this document articulates "what" should be undertaken. This document is a management tool that defines "when" Roadmap initiatives might be carried out and at what investment.



As with any planning document, the TID28 Roadmap should be revisited and refreshed on a yearly basis. Updates should consider changing circumstances in a variety of areas: e.g., City organization, community demographics, emerging Information Technologies, and fluctuations in the state of the economy.

The following pages lay out a pragmatic TID28 Roadmap that will ensure the successful deployment of initiatives, reflects sound investments in technologies and addresses the following:

- Implementation Roadmap over a 4-year timeline.
- Resources required to sustain the TID28 implementation.

3.2 TID28 Roadmap Framework

The TID28 Roadmap will foster a transformative framework for how the City leverages its Information Technologies, embracing Information Technology as a strategic enabler, embedding it as a critical and fundamental component in all the City does. The City will continue to ensure the application of Information Technologies stays aligned with, and supportive of, efficient and responsive delivery of services to all the City's customers – commuters, businesses, and visitors.

By aligning Information Technology in support of the City's business and service delivery processes, the City will become a more agile organization that is better able to support the City's business model and beachside community. Moreover, the TID28 Roadmap will allow the City to leverage emerging and evolving technologies. Through investment in IT, the City will develop and implement innovative and cost-effective approaches for improving the quality and delivery of needed services.

3.3 TID28 Roadmap Objectives

The objectives of the TID28 Roadmap are to:

- Develop high performance and reliable Citywide IT infrastructure to support the dynamic requirements of the City;
- Align the City's IT initiatives with the City's strategic plans while ensuring the City's responsibilities and priorities are recognized and taken into account;
- Invest in IT systems based on a rational and impartial assessment of both quantitative and qualitative benefits and a realistic assessment of project costs, benefits, and risks;
- Reduce the cost of operations and service delivery while improving the quality of services delivered to customers through responsible IT investment; and,
- Deliver IT services internally to the City and externally to the City residents in a cost-effective manner.

Section 4 Budget Estimate



4.1 Budget Overview

The budget estimate reflects a comprehensive analysis, drawing on specific data collected over the course of the project. It provides a management planning budgeting tool.

While every effort has been made to project the approximate cost of the proposed TID28 initiatives (i.e., gross order of magnitude estimates), the City should be aware that technology hardware and software vendor prices vary widely, both in pricing models, product suites, bundling and maintenance options.



Moreover, the cost of implementation vendors/systems integrators can vary even more than system vendors, depending on the geographic location, size of the firm, overhead costs, business model, and even the state of the economy.

The following pages provide high-level budget estimates, or investment requirements, for a phased 4-year implementation of the City's TID28 Implementation Plan.

It should be noted that the budget estimate represents the gross level of effort estimates using the most currently available data; **it does not represent a price quote**. Furthermore, the budget estimates do not include detailed and/or total training costs, data conversion costs, systems integration, and other system-related costs. These costs can only be developed after a detailed specification and scope of work have been articulated.

High-level budget estimates have been determined by:

- Applying industry best practice estimating for the implementation of Information Systems;
- Past experience carrying out similar IT initiatives;
- Data provided by the City, based on staff research; or
- Data researched by ThirdWave.

All proposed solutions identified in the TID28 Roadmap should be thoroughly reviewed and go through formal planning and development of project requirements, specifications and preliminary work breakdown structures, resource allocation planning and development of project schedules prior to the issuance of solicitation documents or internal implementation by the City's IT organization.

4.2 TID28 Initiative Investment

ThirdWave recommends that Information Technology assume a level of strategic importance in the City and that an IT Implementation Fund be established (if one does not already exist) to successfully execute and sustain the implementation of the TID28 Roadmap.

The figures on the following pages provide high-level investment requirements for a phased multiple-year implementation of the City's TID28 Roadmap. The budget estimate does not include TID staff resources. These costs are shown in 4.3 IT Organization Resource Investment.



A "0" cost indicates work carried out by City staff or no net maintenance and support costs are required, typically because the TID28 initiatives do not involve software purchases or related maintenance costs.

TID28 Initiative Types

M	Management: initiatives related to the adoption of policies and practices, staff resources, or investments in training
O	Operational: initiatives related to the ongoing duties of the IT organization
INF	Infrastructure: initiatives related to networks, communications, or associated components
HW	Hardware: initiatives related to servers, personal computers, laptops, tablets, mobile devices, and peripheral
DSW	Software – Departmental: application software proving functionality need by a department or more
ESW	Software – Enterprise: application software proving functionality need by all City departments, typically related to Enterprise Resources Planning solutions
W	Web: Web Applications or Website Enhancements

Figure 4.2.1: TID28 Implementation Roadmap 4-Year Estimated Investment

April 3, 2025

TID26 Budget Estimate						
YR 1	Type	Initiative	2025	2026	2027	2028
1	O 8	Implement Critical Needs 2.0 Technology	2,400,000	8,800,000	11,100,000	6,900,000
2	D SW 4	Conduct an IT Asset Inventory	65,000	70,000	70,000	0
3	HW 1	Accelerate Replacement of Outdated Computers	375,000	0	0	0
4	M 2	Develop a Strategic Plan for Hiring	100,000	0	0	0
5	M 5	Adopt a Formal IT Governance Process	75,000	0	0	0
6	INF 2	Modernize Cloud-based Phone Systems	700,000	125,000	125,000	125,000
7	INF 3	Strengthen Cybersecurity Program, Tools, and Training	80,000	150,000	150,000	20,000
8	HW 2	Accelerate Cloud Based Computing	200,050	50,000	50,000	50,000
9	D SW 3	Implement Mobile Device Management Software	40,000	500,000	500,000	0
10	W 1	Enhance City Website and Public Digital Offerings	0	0	0	0
11	O 4	Establish Workstation OS Practice, Support End User	0	0	0	0
12	O 1	Improve Help Desk Documentation, Training, Customer Satisf.	300,000	300,000	300,000	300,000
			4,335,050	9,995,000	12,295,000	7,395,000
YR 2	Type	Initiative	2025	2026	2027	2028
13	O 3	Improve Usability of Internal Services FUND MOU		80,000	0	0
14	INF 1	Develop Wi-Fi Infrastructure Plan and Standards		100,000	0	0
15	INF 5	Rebuild/Harden Cisco Switches & Routers Network Equipment		1,560,000	6,200,000	5,280,000
16	D SW 2	Improve Spark User Experience for All		0	0	0
17	M 3	Establish Project Management Office/Project Management Stds.		0	0	0
18	E SW 2	Develop Sd. Project Planning/Management Practice		100,000	0	0
19	O 6	Develop an Enhanced Data Protection Policy		0	0	0
20	M 7	Assess Employee Lifecycle Management Needs		200,000	0	0
21	HW 3	Adopt Mobile Device Replacement Cycle		0	0	0
				2,040,000	6,200,000	5,280,000
YR 3	Type	Initiative	2025	2026	2027	2028
22	M 8	Establish Data Governance Framework			75,000	0
23	D SW 1	Conduct Software Discovery, Initiate Product Roadmaps			200,000	0
24	O 2	Expand Security Monitoring and Incident Response Capacity			450,000	210,000
25	M 6	Formalize Technology Purchasing Practices			80,000	0
26	INF 4	Security Cameras Inventory and Update Plan			60,000	0
27	E SW 1	Enhance Human Resource Management System			2,500,000	2,500,000
					3,365,000	2,710,000
YR 4	Type	Initiative	2025	2026	2027	2028
28	O 5	Document Processes/Services, Establish KPIs and SLAs				100,000
29	O 7	Enhance Business Continuity Plan				75,000
30	M 1	Conduct Inventory of City Staff Training needs				80,000
31	M 4	Establish Modern TID Staff Training Standards				0
						255,000
Total			4,335,050	12,035,000	21,860,000	15,640,000

Budget Footnotes

The footnotes below provide a synopsis of assumptions for each of the TID28 initiatives listed over the 4-year timeline. The foregoing assumes all project deployments will be preceded by the development of formal functional and technical requirements, development of a comprehensive Request for Proposal document where appropriate and will utilize competitive solicitation processes to contain costs where the initiative will be carried out by a third-party.

YEAR 1

1. O 8 **Implement Critical Needs 2.0 Technology:** Costs for this initiative reflect several core hardware and software programs that are vital to maintain City functions. These are estimates at the time of publishing this document.
2. D SW 4 **Conduct an IT Asset Inventory:** This initiative reflects the cost of this initiative being carried out by a Consultant, with participation of TID staff.
3. HW 1 **Replace Outdated Computers:** This cost reflects Consultants to accelerate the replacement of outdated computers.
4. M 2 **Develop a Strategic Plan for Hiring:** This initiative reflects the cost of developing a plan, carried out by a Consultant/TID staff, with the eventual hiring of new TID staff to take over the work.
5. M 5 **Adopt a Formal IT Governance Process:** This cost reflects professional services to TID establish an IT Governance process, policies and practices, carried out by carried out by a Consultant/TID staff. This also reflects the costs of a new TID staff to maintain the process.
6. INF 2 **Modernize Cloud-based Phone Systems:** The costs reflects hardware and software purchases.
7. INF 3 **Strengthen Cybersecurity Program, Tools, and Training:** This cost reflects professional services, software and hardware purchases and installation carried out by TID Staff/Consultant.
8. HW 2 **Accelerate Cloud Based Computing:** This cost reflects hardware purchases, and hosting carried out by TID Staff/Consultant.
9. D SW 3 **Implement Mobile Device Management Software:** This initiative reflects the cost of this initiative being carried out by consultants, with participation of TID staff.
10. W 1 **Enhance City Website and Public Digital Offerings:** The costs are already included in the TID Budget so there is no additional cost associated with this.
11. O 4 **Establish Workstation OS Practice, Support End User:** This project is already resourced.
12. O 1 **Improve Help Desk Documentation, Training, Customer Satisfaction:** This work will be carried out by City TID staff and will require a technology system.

YEAR 2

13. O 3 **Improve Usability of Internal Services Fund MOU:** This cost reflects professional services provided by a Consultant.
14. INF 1 **Develop Wi-Fi Infrastructure Plan and Standards:** These costs will include a Wi-Fi assessment by a Consultant, articulating technical requirements, and developing a Wi-Fi plan and budget.

April 3, 2025

- 15. INF 5 **Rebuild/Harden Cisco Switches & Routers Network Equipment:** These costs will include hardware purchases and installation services by a Vendor. New TID staff will be required to maintain the rebuilt network.
- 16. D SW 2 **Improve Spark User Experience for All:** This work will be carried out by an existing Consultant/TID Staff, therefore there is no cost associated with it.
- 17. M 3 **Establish Project Management Office/Project Management Standards:** This work will be carried out by new and existing TID Staff.
- 18. E SW 2 **Develop Standard Project Planning / Project Management Practice:** This initiative will be carried out by TID Staff requested in initiative M3, but may require additional funds for software.
- 19. O 6 **Develop an Enhanced Data Protection Policy:** This work will be carried out by TID Staff, therefore there is no additional cost associated with it.
- 20. M 7 **Assess Employee Lifecycle Management Needs:** This cost reflects an initiative that will entail professional services by a Consultant.
- 21. HW 3 **Adopt Mobile Device Replacement Cycle:** This work will be carried out by new TID Staff.

YEAR 3

- 22. M 8 **Establish Data Governance Framework:** This work will be carried out by a new TID Staff, therefore there is a cost associated with this new FTE, though additional funds may be required for consultant or software support.
- 23. D SW 1 **Conduct Software Discovery, Initiate Product Roadmaps:** This cost reflects a software inventory at the department level to develop an implementation schedule, carried out by a Consultant.
- 24. O 2 **Expand Security Monitoring and Incident Response Capacity:** The cost will include systems costs. The work will be carried out by a Consultant.
- 25. M 6 **Formalize Technology Purchasing Practices:** This cost reflects professional services provided by a consultant. This task will be carried out by TID Staff.
- 26. INF 4 **Security Cameras Inventory and Update Plan:** This task carried out by TID Staff/Consultant.
- 27. E SW 1 **Enhance Human Resource Management System:** These costs will be for an initiative that will entail formal requirements definition, functional and technical performance specifications for a formal solicitation process carried out by a consultant; software, and professional implementation services, in addition to ongoing software maintenance costs. This initiative will be carried out by a Consultant/Vendor and require the participation of City subject matter experts.

YEAR 4

- 28. O 5 **Document Processes/Services, Establish KPIs and SLAs:** This cost reflects professional services provided by a consultant. This task will be carried out by Consultant/TID Staff.
- 29. O 7 **Enhance Business Continuity Plan:** This cost reflects professional services provided by a Consultant.
- 30. M 1 **Conduct Inventory of City Staff Training Needs:** This task will be carried out by TID Staff, with Consultant support.

Deliverable 3.3: Final TID28

April 3, 2025

31. M 4 **Establish Modern TID Staff Training Standards:** This work will be carried out by new TID Staff.

4.3 IT Organization Resource Investment

The issue of inadequate staff resources in the IT organization was an identified challenge throughout the TID28 project. It was noted in the Management Interviews, Online Staff Survey, and IT Focus Groups. TID resource requirements were identified drawing on project these datasets. The following cost data provides budget estimates for TID staff resources anticipated to sustain the implementation of TID28 and beyond.

Figure 4.3.1: TID Resources Requirements

No.	Initiatives	Title	Y1	Y2	Y3	Y4	Bureau	Classification	Grade
1	M3, ESW2	Project Management Officer	■	■	■	■	EO	Business Info Tech Officer	N/A
2	M3	PMO: IT Project Manager	■	■	■	■	EO	Business Systems Specialist	V
3	M3	PMO: IT Project Manager	■	■	■	■	EO	Business Systems Specialist	V
4	M3	PMO: Sr. Business Analyst	■	■	■	■	EO	Business Systems Specialist	V
5	M5, O5, M6	Admin Analyst (IT Governance)	■	■	■	■	EO	Admin Analyst	III
6	M8	Admin Analyst (Data Gover.)		■	■	■	EO	Admin Analyst	III
7	HW3	Systems Support Specialist	■	■	■	■	TES	Systems Support Specialist	III
8	M1, M2	Admin Analyst (HR & Training)		■	■	■	BOB	Admin Analyst	III
9	O4	Systems Support Specialist	■	■	■	■	TES	Systems Support Specialist	III
10	INF5	Communications Specialist	■	■	■	■	ISB	Communications Specialist	IV

The figure below identifies proposed IT staff positions with fully burdened rates used in the TID28 budget.

Figure 4.3.2: TID Staff Resource Costs & Responsibilities

No.	Title	Salaries	
1	Project Management Officer	234,836	Establish PMO; Lead development of PM standards and practice
2	PMO: IT Project Manager	178,360	Project management
3	PMO: IT Project Manager	178,360	Project management
4	PMO: Sr. Business Analyst	178,360	Project management
5	Admin Analyst (IT Governance)	159,071	Adopt IT Governance, Formalize Technology Purchasing, Document Processes/Services, Establish KPIs. SLAs
6	Admin Analyst (Data Gover.)	159,071	Establish Data Governance Framework
7	Systems Support Specialist	148,065	Support mobile device replacement on ongoing basis
8	Admin Analyst (HR & Training)	159,071	Develop Strategic Plan for Hiring, Conduct Inventory of City Staff Training Needs
9	Systems Support Specialist	148,065	Establish Workstation OS Practice. Support End User Applications
10	Communications Specialist	162,317	Rebuild and Harden City Cisco Switches & Routers Network Equipment

Figure 2.3.3: TID Resource Investment

	2025	2026	2027	2028
PMO: Project Management Officer	234,836	234,836	234,836	234,836
PMO: IT Project Manager	178,360	178,360	178,360	178,360
PMO: IT Project Manager	178,360	178,360	178,360	178,360
PMO: Sr. Business Analyst	178,360	178,360	178,360	178,360
Admin Analyst (IT Governance)	159,071	159,071	159,071	159,071
Admin Analyst (Data Governance)		159,071	159,071	159,071
Systems Support Specialist	148,065	148,065	148,065	148,065
Admin Analyst (HR and Training)		159,071	159,071	159,071
Systems Support Specialist	148,065	148,065	148,065	148,065
Communications Specialist	162,317	162,317	162,317	162,317
	1,387,434	1,705,576	1,705,576	1,705,576

Figure 2.3.4: TID28 Initiative & Resource Investment Summary

	2025	2026	2027	2028	Total
TID28 Initiatives	4,335,050	12,035,000	21,860,000	15,640,000	53,870,050
TID28 Resource Investment	1,387,434	1,705,576	1,705,576	1,705,576	6,504,162
Subtotals by Year	5,722,484	13,740,576	23,565,576	17,345,576	60,374,576
TID28 Total Investment	\$ 60,374,576				

Section 5

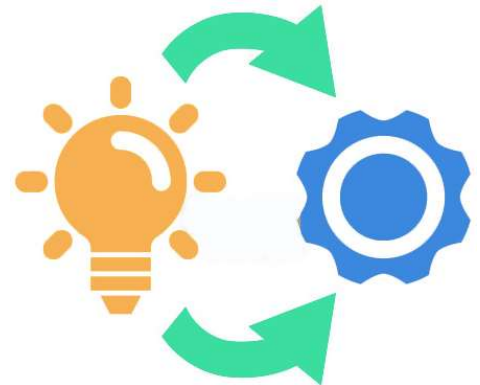
4-Year TID28 Roadmap



5.1 TID28 Implementation Roadmap Principles

The TID28 Roadmap illustrates the prioritized sequencing and projected timelines for strategic initiatives over a 4-year period. The Roadmap represents the logical and well-planned implementation phase of the IT Strategic Plan.

The yearly TID28 project schedules reflect the final priorities identified as of this writing. However, it bears noting this Roadmap is a living document. As a planning and implementation document, **the roadmap should be reviewed on a yearly basis, and adjusted as the City's organization needs, financial position, technologies emerge, and the City's Information Technology portfolio changes.**



5.2 4-Year TID28 Implementation Timeline

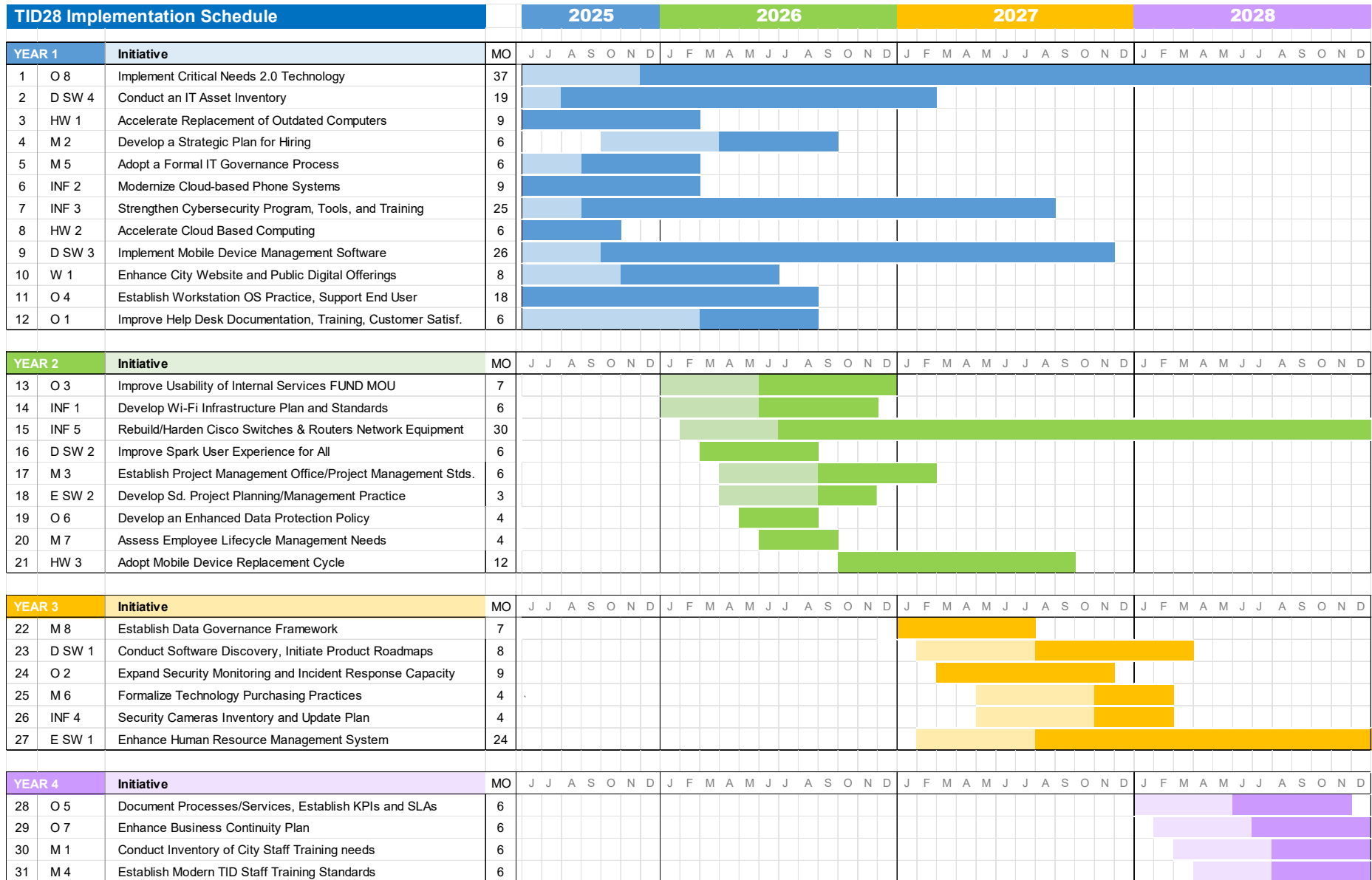
The figure on the following page (5.3.1) provides an overview of the proposed 4-year TID28 Roadmap. In general, the 4-year plan follows the prioritization identified in Section 2 of this document. The following should be noted:

- ***Projects requiring requirements definition/IT Governance and/or a solicitation process are shown with a light-colored bar preceding the solid dark color bar***, which indicates the deployment timelines. TID28 Roadmap initiatives that require a solicitation process tend to be larger and more complex projects. These projects will generally be carried out by external professional resources supported by internal City IT staff/subject matter experts.

April 3, 2025

- Projects anticipated to be carried out by existing TID staff resources without a solicitation phase are shown with a solid bar indicating approximate deployment timelines. (The solid bar indicates the projected implementation timelines, not the upfront requirements definition and solicitation timelines.)
- From a planning perspective, the solicitation timelines are important because they imply:
 - A formal requirements definition effort.
 - The formation of staff resources for the development of RFP documents.
 - The formation of end-user evaluation/selection committees.
 - The assignment of appropriate IT staff resources for the execution of the initiatives.
 - The assignment of appropriate City staff backfilled resources for the execution of large IT projects, i.e., Enterprise Resource Planning solutions; and
 - The identification of appropriate Change Management activities.
- Ongoing TID28 Roadmap initiatives are shown with a dashed line.
- The number in the column titled "MO" indicates the approximate number of months estimated to carry out an initiative.
- ***The timings of TID28 Roadmap initiatives are subject to change based on the availability of funding,*** either at the department or enterprise level.
- ***The TID28 Roadmap proposed here is not cast in concrete*** and should be reviewed on a yearly basis, revised, and adjusted as appropriate.

Figure 5.2.1: Implementation Roadmap



Deliverable 3.3: Final TID28

Implementation Timeline Footnotes

The numbers shown in the "MO" column indicate the number of months for the implementation of TID28 initiatives, shown with the dark-colored bar. The front-end work to develop requirements or carry out a solicitation is indicated with the lighter color bar. The footnotes below provide a synopsis on the implementation approach for each of the TID28 initiatives listed over the 4-year timeline. The project timelines assume all project deployments will use formal PMBOK™ Project Management and Change Management Best practices.

YEAR 1

1. **O 8** **Implement Critical Needs 2.0 Technology:** This timeline assumes 6 months to finalize Critical Needs 2.0 items.
2. **D SW 4** **Conduct an IT Asset Inventory:** This timeline assumes TID staff will complete this task by the end of 2026.
3. **HW 1** **Accelerate Replacement of Outdated Computers:** No footnotes.
4. **M 2** **Develop a Strategic Plan for Hiring:** This timeline assumes a 6-month timeline to develop RFP and go through the procurement process to procure professional services, followed by a deployment phase estimated to take 6 months.
4. **M 5** **Adopt a Formal IT Governance Process:** This timeline assumes time to conduct a solicitation for a consultant to support TID staff in carrying out this initiative.
6. **INF 2** **Modernize Cloud-based Phone Systems:** This deployment is expected to take 12 months.
7. **INF 3** **Strengthen Cybersecurity Program, Tools, and Training:** This timeline assumes a 5-month timeline to develop RFP and go through the procurement process to procure professional services, followed by a deployment phase estimated to take over 24 months.
8. **HW 2** **Accelerate Cloud Based Computing:** This timeline assumes a 6-month timeline for TID staff to carry out this initiative with consultant help.
9. **D SW 3** **Implement Mobile Device Management Software:** This timeline assumes a 5-month timeline to develop detailed technical and functional requirements and implement mobile device management in InTune, followed by a deployment phase estimated to take 24+ months.
10. **W 1** **Enhance City Website and Public Digital Offerings:** This timeline assumes a 5-month timeline to develop detailed technical and functional requirements, RFP and go through a formal procurement process to obtain professional services and software vendor purchases, followed by a deployment phase estimated to take 8 months.
11. **O 4** **Establish Workstation OS Practice, Support End User:** This timeline assumes a 6-month timeline for TID staff to carry out creating a formal plan for updating personal computer operating systems and client software. It will take at least 24 to 36 months to full ensure that all operating systems and client software are updated to the most recent versions.
12. **O 1** **Improve Help Desk Documentation, Training, Customer Satisfaction:** This timeline assumes a 12-month timeline to prepare and develop detailed Scope of Work, RFP and go through a formal procurement process to obtain vendor services followed by a deployment estimated to take 6 months.

YEAR 2

13. **O 3** **Improve Usability of Internal Services Fund MOU:** This timeline assumes a 5-month timeline to develop detailed Scope of Work, RFP and go through a formal procurement process to obtain professional services, followed by a project estimated to take 7 months.
14. **INF 1** **Develop Wi-Fi Infrastructure Plan and Standards:** This timeline assumes a 5-month timeline to develop detailed technical and functional requirements, RFP and go through a formal procurement process to obtain professional services to carry out a Wi-Fi assessment, articulate technical requirements, and develop a plan and budget for Wi-Fi estimated to take 6 months.
15. **INF 5** **Rebuild/Harden Cisco Switches & Routers Network Equipment:** This timeline assumes a 5-month timeline to develop detailed technical and functional requirements, RFP and go through a formal procurement process to obtain vendor services followed by a deployment estimated to take 24+ months.
16. **D SW 2** **Improve Spark User Experience for All:** This timeline assumes a 6-month timeline to develop detailed technical and functional requirements carry out the project estimated to take 6 months.
17. **M 3** **Establish Project Management Office/Project Management Standards:** This timeline assumes a 5-month hiring timeline for the new Project Management Office FTEs.
18. **E SW 2** **Develop Standard Project Planning/Management Practice:** This timeline assumes a 3-month timeline for new TID FTEs to complete this.
19. **O 6** **Develop an Enhanced Data Protection Policy:** This timeline assumes a 4-month timeline for TID staff to carry out this initiative.
20. **M 7** **Assess Employee Lifecycle Management Needs:** This timeline assumes a 4-month timeline for TID staff to carry out this initiative.
21. **HW 3** **Adopt Mobile Device Replacement Cycle:** This timeline assumes a 12-month timeline for TID staff to carry out creating and communicating a plan for this initiative, and initiating replacements.

YEAR 3

22. **M 8** **Establish Data Governance Framework:** This timeline assumes a 7-month timeline for TID staff to carry out this initiative.
23. **D SW 1** **Conduct Software Discovery, Initiate Product Roadmaps:** This timeline assumes a 5-month timeline to develop detailed technical and functional requirements, RFP and go through a formal procurement process to obtain professional services, followed by a deployment phase estimated to take 8 months.
24. **O 2** **Expand Security Monitoring and Incident Response Capacity:** This timeline assumes a 9-month timeline for a consultant to carry out this initiative.
25. **M 6** **Formalize Technology Purchasing Practices:** This timeline assumes a 6-month timeline to develop detailed Scope of Work, RFP and go through a formal procurement process to obtain professional services, followed by a project estimated to take 4 months.
26. **INF 4** **Security Cameras Inventory and Update Plan:** This timeline assumes a 6-month timeline to develop detailed Scope of Work, RFP and go through a formal procurement process to obtain professional services, followed by a project estimated to take 4 months.

Deliverable 3.3: Final TID28

- 27. **E SW 1** **Enhance Human Resource Management System:** This timeline assumes a 6-month timeline to develop detailed technical and functional requirements, RFP and go through a formal procurement process to procure a solution and professional services, followed by a deployment phase estimated to take 24+ months.

YEAR 4

- 28. **O 5** **Document Processes/Services, Establish KPIs and SLAs: Processes, SOP:** This timeline assumes a 5-month timeline to develop detailed Scope of Work, RFP and go through a formal procurement process to obtain professional services, followed by a project estimated to take 6 months.
- 29. **O 7** **Enhance Business Continuity Plan:** This timeline assumes a 5-month timeline to develop detailed Scope of Work, RFP and go through a formal procurement process to obtain professional services, followed by a project estimated to take 6 months.
- 30. **M 1** **Conduct Inventory of City Staff Training Needs:** This timeline assumes a 5-month timeline to develop RFP and go through the procurement process to procure professional services, followed by a deployment phase estimated to take 6 months.
- 31. **M 4** **Establish Modern TID Staff Training Standards:** This timeline assumes a 5-month timeline to develop an RFP and a 6-month timeline for a consultant staff to carry out this initiative.

Section 6
**City & Community
Benefits**



6.1 TID28 Benefits

A number of quantitative and qualitative benefits are identified in the TID28 Roadmap project, indicating a considerable opportunity for enhancing internal operations and service delivery to the public. More than 100 different types of potential benefits are identified in the TID Focus Groups and TID Organization Focus Groups.

While the benefits were not quantified (e.g., there is no measure of benefits in terms of dollars), the list below provides a general indicator on the magnitude of the opportunity.



Overall, the following data highlights a strong focus on improving security, efficiency, user experience, and operational capabilities through modernized technology and processes. The project aims to deliver tangible benefits such as cost savings, better service delivery, and stronger security while ensuring compliance and future readiness, while ensuring compliance and better integration of systems and processes.

Figure 6.1 below provides a summary of the potential benefits identified in the TID28 project if the TID28 initiatives were implemented.

Figure 6.1: Summary of Potential City-wide & Community Benefits

1. Improved Security and Compliance
2. Project Management & Implementation
3. Increased Operational Efficiency & Performance
4. Cost Savings
5. Improved User Experience
6. Up-to-date Technology & Infrastructure
7. Modernization & Future-Readiness
8. Improved End User Support
9. Enhanced Collaboration & Integration
10. Data Management, Accessibility & Reporting
11. Improved Talent & Collaboration
12. Resource Management & Cost Control
13. Improved Reliability & Supportability
14. Enhanced Public Services
15. Vision & Strategic Alignment
16. Strengthened Risk Management & Contingency Planning

Each of these benefits is described below.

1. Improved Security and Compliance

- Enhanced security posture and stronger security for systems, networks and data.
- Compliance with regulations like PCI and HIPAA.
- Reduced risk, security vulnerabilities, and liability for audits.
- Improved cybersecurity, including faster detection and remediation of security incidents.
- Compliance with PCI, HIPAA, and other regulatory requirements.
- Faster detection and remediation of security events.
- Security integrated into the platform from the beginning.

2. Project Management & Implementation

- Effective management of the project with clear objectives and timelines.
- Streamlined processes and standardized project execution.
- Easier project monitoring, with a focus on timely delivery and successful outcomes.
- Clear vision and roadmap for future technology adoption.

3. Increased Operational Efficiency & Performance

- Improved application and network performance.
- Faster project delivery, communication, and response to issues.
- Reduced downtime and maintenance needs.
- Streamlined processes and reduced duplication of data entry.
- Enhanced transparency and accountability.
- Enhanced operational efficiency through automation and modernization.
- Cost savings through reduced maintenance, lower support costs, and resource optimization.
- Improved reliability, uptime, and performance of applications and networks.
- Easier maintenance, support, and troubleshooting of systems.

4. Cost Savings

- Reduced costs related to maintenance, licensing, and support.
- Cost savings through more efficient use of resources and staff time.
- Lowered acquisition costs and more reliable operations.

5. Improved User Experience

- Improved customer service and support.
- Easier navigation and fewer issues for end users.
- Enhanced employee skillsets and job satisfaction.
- Better service delivery and user-friendly systems.

6. Up-to-date Technology & Infrastructure

- Modernization and upgrading of network environments, including Wi-Fi and telephony systems.
- Integration and compatibility with existing software and operating systems.
- Increased bandwidth, reduced network traffic, and enhanced connectivity.
- Adoption of the latest technology and preparation for future demands, such as the LA Olympics.

7. Modernization & Future-Readiness

- Ability to keep up with the latest technology and network demands.
- Easier transition to updated applications and hardware.
- Preparation for future events (e.g., LA Olympic needs).
- Roadmap for future improvements and upgrades.

8. Improved End User Support

- Better end-user applications and improved customer service.
- Easier navigation and fewer issues for end users.
- Faster support response times and reduced frustration for users.
- Enhanced transparency and communication within the organization and with the public.

9. Enhanced Collaboration & Integration

- Enhanced collaboration across departments.
- Better integration of systems (e.g., INFOR and GIS).
- Clearer roles and responsibilities.
- Knowledge transfer and reduced reliance on legacy systems.

10. Data Management, Accessibility & Reporting

- Accurate data management and real-time access.
- Improved data validation and risk assessment.
- Reduced digital divide and better resource allocation.
 - Improved data integrity, synchronization, and accessibility.
 - Real-time data access, reporting, and analytics.
 - De-normalized data allowing for more flexible data use.
 - Accurate account information and better data-driven decisions.

11. Improved Talent & Collaboration

- Attraction and retention of top talent due to modern tools and improved employee skillsets.
- Improved collaboration across departments and with external vendors.
- Knowledge transfer and easy training within the organization.

12. Resource Management & Cost Control

- Better resource allocation, reduced staff workload, and efficient use of staff time.
- Lower costs for acquisition, licensing, and support.
- Elimination of redundant processes and data entry.
- Streamlined resource sharing and support across departments.

13. Improved Reliability & Supportability

- Improved reliability of systems and services.
- Increased uptime for public-facing websites and internal systems.
- Better supportability and reduced need for help desk intervention.

14. Enhanced Public Services

- Increased availability of city services to the public.
- Faster and more reliable delivery of services.
- Enhanced user experience for public-facing applications and websites.

15. Vision & Strategic Alignment

- Clearer vision for IT and business department synergy.
- Project alignment with long-term goals.
- Easier adaptation to future technology changes.

16. Strengthened Risk Management & Contingency Planning

- Faster disaster recovery and reduced liability.
- Enhanced risk assessment and mitigation strategies.
- Better planning and preparedness for future challenges.

Section 7

Closing Recommendations



7.1 Adoption & Funding

Based on the voluminous amount of data collected from City staff and management, the findings and recommendations of the TID28 Implementation Roadmap, and the opportunities for making substantial progress in the use of emerging Information Technologies, ThirdWave recommends that the City approve and adopt the TID28.

Doing so will result in business process improvement, increased operational efficiencies, and enhanced service delivery to residents, businesses, and tourists to the City while containing operational costs.

Adoption of the TID28 represents a substantial opportunity to position the City in terms of emerging automation and enhanced sustainability for the next 4 years – and beyond, since many of the initiatives will be in place for the next 5 to 10 years.



NEXT STEPS

Section 8 Appendix



8.1 TID Existing Projects

The following provides a list of 219 existing TID projects as of April 2025.

Figure 8.1.1: Existing TID Projects as of April 2025

1. **Airport Asset Management:** Organize and track airport Information Technology (IT) assets for better visibility and ownership.
2. **Arson Statistics Dashboard:** Create a reliable dashboard for tracking arson statistics and investigations.
3. **Fire Equipment Asset Tracking:** Onboard an application to track non-technical Fire Department equipment.
4. **Budget Enhancement and Reduction (BEAR) Application Migration:** Modify the BEAR application code and hosting model to leverage cloud technologies. .
5. **Airport Phone Setup:** Set up common use phones at Long Beach Airport.
6. **Constituent Relationship Tracking:** Leverage existing technologies powering Go Long Beach to track interactions with constituents.
7. **Los Angeles County Fire Dashboard:** Build a real-time unit deployment data sharing system amongst LA County Fire Departments for mutual aid purposes.
8. **Airport Cybersecurity Assessment:** Develop a plan to assess the effectiveness of the airport's cybersecurity implementation.

9. **Environmental Health Software Replacement:** Replace outdated environmental health software with a new system.
10. **Data Warehouse Establishment:** Set up a cloud-based data warehouse for secure, scalable data proliferation and insights.
11. **Fire Station Wireless Deployment:** Deploy wireless access points to fire stations for over-the-air radio programming.
12. **Fire Watch Commander Log:** Develop an application to manage significant events communication for Fire command staff.
13. **Grant Application Automation:** Automate the grant application process using existing technologies.
14. **Homelessness Data Warehouse:** Move homelessness data to a secure data warehouse for analysis and reporting.
15. **Application Monitoring Solution:** Implement a monitoring and alerting solution for all applications.
16. **Endpoint Management Implementation:** Adopt InTune for managing end-user devices (laptops, PCs, smartphones, and tablets)
17. **Incident Management App:** Implement an incident management application for the Fire Department.
18. **Interview Room Camera Upgrade:** Replace cameras in interview rooms with newer models.
19. **Constituent Inquiry Tracking for Planning:** Implement a proof of concept to log Planner interactions with the public.
20. **Fleet Management Software Migration:** Migrate fleet management software to the cloud.
21. **Mobile Data Terminal (MDT) Upgrade:** Upgrade MDTs from Windows 10 to Windows 11.
22. **Visual Improvement Program (VIP) Data Integration:** Automate process for providing aid to businesses who have been the victim of burglaries and vandalism.
23. **Digital Evidence Migration:** Move digital evidence to evidence.com.
24. **Contract Management System Modernization:** Replace unsupported contract management system with existing toolsets.
25. **Fire Data Migration:** Leverage Snowflake for Fire Department reports and dashboards.

26. **Emergency Response System Migration:** Replace the National Fire Incident Reporting System with the new National Emergency Response Information System.
27. **Fire Vehicle Configuration:** Configure new MDTs and modems for fire vehicles.
28. **Court Check-In App:** Implement an application for Officers to check in when attending court.
29. **Police E-Citations System Interface:** Initiate a project to allow non-sworn staff to issue electronic parking citations.
30. **Police NetMotion Upgrade:** Upgrade NetMotion Virtual Private Network software to support Multi-Factor Authentication (MFA).
31. **Police Records Management System (RMS) Upgrade:** Work through post Upgrade the police RMS.
32. **Police Server Modernization:** Upgrade/replace dated Police Department servers.
33. **Computer-Aided Dispatch (CAD) Server Replacement:** Replace aging CAD infrastructure.
34. **ServiceNow Improvements:** Enhance ServiceNow functionality and user experience for the internal incident and request management system.
35. **Telestaff Migration:** Migrate Telestaff to a new cloud environment for the Fire Department.
36. **Tree Planting Website:** Create a website for requesting free street trees.
37. **ServiceNow Mid Server Upgrade:** Upgrade ServiceNow servers responsible for communicating between the ServiceNow cloud and on-premise directory servers.
38. **Utility Bill Print and Mail Services Transition:** Transition Utility bill print and mail services to InfoSend.
39. **IT Service Management/Financials System Integration:** Introduce long general ledger (GL) accounts into Spark (IT Service Management tool).
40. **Code Enforcement Workflow Enhancement:** Add new citations and milestones to code enforcement workflows in the land management system, Infor.
41. **System Environment Refresh Automation:** Automate the refresh process of non-production environments.
42. **Building Inspector Complaints Tracking:** Use SharePoint to track building complaints.
43. **Smart Water Valve Installation Project:** Install smart water valves at utility accounts with frequent service turnoffs and configure the billing system to support this functionality.

44. **Customer Information System (CIS) Data Management:** Implement a data archiving solution for utilities data to optimize storage and ensure compliance with retention policies.
45. **Debt Management System Implementation:** Implement a new debt collection system.
46. **Payment Interface Implementation:** Implement a new payment interface for the special events and film permitting system.
47. **Field Service System Replacement:** Replace the field service system for LB Utilities and Public Works field staff.
48. **Human Resources (HR) System Implementation:** Replacement of the legacy mainframe-based HR System.
49. **HR/Payroll Reporting Modernization:** Modernize HR/payroll reporting.
50. **Infor Land Management Reporting Digitization:** Transition Infor reports to electronic delivery.
51. **iNovah Cashiering System Version Upgrade:** Upgrade iNovah application, databases, and servers.
52. **LB Builds Project:** Implement a new enterprise land management system used by various departments for permit and licensing management.
53. **Uniform Resource Locator (URL) Migration to HTTPS:** Transition legacy site addresses to Hypertext Transfer Protocol Secure (HTTPS), including internal web traffic, to enhance security and ensure data integrity.
54. **Munis Inventory Module Implementation:** Implement inventory module in Munis for the Fire department.
55. **Payment Card Industry (PCI) Compliance Activities:** Participate in activities to meet PCI compliance requirements.
56. **Position Control Records Management and Maintenance:** Redesign and streamline the process for tracking, managing, and controlling the allocation and funding of city positions.
57. **Kiosk Updates for Walk-In Customers:** Enable upgrades for walk-in customers who utilize kiosks at the Permit Center and Lobby for a more streamlined experience.
58. **CIS Server Operating System Upgrade:** Upgrade servers to the latest version of Red Hat Enterprise Linux to enhance stability and security.
59. **RescueNet Ambulance Billing System Version Upgrade:** Upgrade RescueNet to version 5.1.

60. **Penalty and Collections Process Resumption:** Resume penalty and collections processes paused during the city's COVID response.
61. **Utilities Account Severance Process Resumption:** Reinstate pre-COVID procedures for utilities account severance and late fees.
62. **Role and Access Audit:** Conduct semi-annual role and access audits for enterprise systems.
63. **Time Entry Solution Implementation:** Implement the Upland Time Entry system across city departments to replace the paper-based manual time entry system with a digital, online solution.
64. **Utilities Customer WebPortal Replacement:** Replace the utilities customer self-service web portal to improve usability and functionality.
65. **Refuse Organics Billing Enhancement:** Implement functionality to support new billing calculations for refuse organics, ensuring compliance with regulatory requirements.
66. **Fire Station Rebuild:** Support rebuild of existing fire stations and outfit with network, wifi, and cameras where applicable.
67. **Police Department (PD) Academy Construction:** Build new and rebuild existing police academy and outfit with network, wifi, and cameras where applicable.
68. **Belmont Plaza Pool Construction:** Support Belmont Plaza Pool construction and outfit with network, wifi, and cameras where applicable.
69. **Luxury Inn Renovation:** Rebuild existing Luxury Inn and add cameras.
70. **Crime Lab Construction:** Support the Crime Lab build at existing location and outfit with network, wifi, and cameras where applicable.
71. **Senior Center Construction:** Support Senior Center build at existing location and outfit with network, wifi, and cameras where applicable.
72. **Public Services Building (PSB) Floor Renovation:** Support PSB floor renovations with new cubicles and data cables.
73. **Community Relations Division (CRD) Upgrade:** Relocate walls, carpet, and install new cubicles, data ports and WiFi.
74. **Pilot Hanger Upgrade:** Relocate walls, carpet, and install new cubicles, data ports and WiFi.
75. **PD Cubicle Upgrade:** Install new cubicles and pull new cables, data ports and WiFi.
76. **Fire Department Mail Room Upgrade:** Upgrade mail room with new cubicles and data cables.
77. **Fire Department Payroll Cubicle Installation:** Pull cables for new cubicles.

78. **April Parker Homeless Shelter** Assist with Internet Service Provider (ISP) and card readers.
79. **Right of Way Construction Fiber Installation:** Install fiber and new network room at ROWC.
80. **Green Belt Park Infrastructure:** Install conduit infrastructure for future camera security.
81. **Silverado Park:** Build new network infrastructure, cameras, and WiFi for Silverado Park.
82. **Drake Park Upgrade:** Update network room and data drops at Drake Park.
83. **Admiral Kidd Park Lighting:** Connect smart lighting to city network.
84. **Library Infrastructure Assessment:** Conduct site visits to determine infrastructure challenges.
85. **One-Number Tuning:** Complete the tuning of the one-number with frequently asked for services.
86. **Fleet Services Data Cables:** Install new data cables for fleet services.
87. **Radio & Asset Building Construction:** Retrofit new building for radio and asset departments.
88. **Economic Development (ED) Move:** Move ED from City Hall to new location.
89. **Housing Authority (HA) Audio-Visual (A/V) Assessment:** Determine capabilities for HA.
90. **HA Panic Button Installation:** Install panic buttons at HA.
91. **Project Intake Process:** Establish a more formalized project intake process for TID projects.
92. **Emergency Radio Response Communications System (ERRCS) Implementation:** Implement ERRCS.
93. **PD Shooting Range Network Setup:** Set up network and re-cable PD shooting range.
94. **Learning Hub Wi-Fi Installation:** Provide Wi-Fi for designated parks.
95. **Identity and Access Management (IAM) Assessment:** Conduct assessment for onboarding/offboarding accounts and Zero Trust.
96. **Disaster Recovery (DR) Setup:** Transition non-mainframe disaster recovery to cloud.
97. **Server Operating System (OS) Patching Automation:** Automate server OS patching.
98. **Microsoft Teams Dialing Deployment:** Deploy Microsoft Teams external dialing.

99. **Webex Migration:** Migrate Cisco phones and call centers to the cloud.
100. **Webex Integration with Teams:** Integrate Webex with Microsoft Teams.
101. **Alamitos Bay Marina Fiber Installation:** Provide fiber throughout Alamitos Bay Marina.
102. **Circuit/Phone Audit:** Inventory all circuits citywide.
103. **Studebaker Bridge Fiber Installation:** Install new fiber for communications and cameras.
104. **Citywide Fiber Network Construction:** Build out fiber network across the city.
105. **New Traffic Management Center (TMC) Construction:** Build new TMC for public works.
106. **Demilitarized Zone (DMZ) Decommissioning:** Remove DMZ at Emergency Communications Operations Center (ECOC).
107. **LB Transit Fiber Camera Installation:** Identify fiber link for new cameras.
108. **Network Refresh Plan Finalization:** Finalize and acquire budget for network upgrades.
109. **Thousand Eyes Deployment:** Deploy Thousand Eyes software for network troubleshooting.
110. **LAZ Parking Network Setup:** Establish network for LAZ Parking.
111. **Proxy Agent Deployment:** Deploy proxy agent across devices.
112. **Library Circuit Migration:** Migrate library primary circuit to new provider.
113. **Kiosk Network Isolation:** Assess and isolate network for kiosk.
114. **Azure Landing Zone Reconfiguration:** Reconfigure Azure cloud space.
115. **ECOC Nexus Replacement:** Upgrade outdated core switches.
116. **Fire Station Network Upgrades:** Replace outdated routers and switches at fire stations.
117. **Advanced Metering Infrastructure (AMI) Station Setup:** Set up polling AMI stations.
118. **Zero Trust Framework Identification:** Identify framework for Zero Trust.
119. **Network Core Upgrades:** Implement core routers for inside/edge.
120. **Cradlepoint Router Upgrade:** Upgrade routers at various locations.
121. **IT Closet Assessment:** Identify needs and repairs for IT closets.

- 122. **Eyes on Anaheim Camera Upgrade:** Replace and upgrade cameras for Eyes on Anaheim.
- 123. **Washington Middle School Camera Upgrade:** Replace and upgrade cameras at Washington Middle School.
- 124. **Broadway Parking Structure Security:** Enable new security features at Broadway Parking Structure.
- 125. **City Hall Elevator Access Control:** Enable access control for City Hall elevators.
- 126. **Traffic Cabinet Access Control:** Test out access control features for traffic cabinets.
- 127. **Network Video Recorder Upgrade:** Upgrade 21 network video recorders.
- 128. **East Police Station Camera Upgrade:** Upgrade outdated cameras at East Police Station.
- 129. **West Police Station Camera Upgrade:** Upgrade outdated cameras at West Police Station.
- 130. **Obama Library Camera Upgrade:** Upgrade outdated cameras at Obama Library.
- 131. **Tiny Homes Camera Installation:** Install cameras for Tiny Home Shelter.
- 132. **Parking Lot A Camera Upgrade:** Upgrade cameras for Parking Lot A.
- 133. **Shelter Camera Installation:** Install cameras for Shelter at 702 W Anaheim.
- 134. **Downtown Marina Access Control Upgrade:** Upgrade access control for Downtown Marina.
- 135. **Citywide Access Control Reader Installation:** Install access control readers citywide.
- 136. **Environmental Services Bureau (ESB) Camera Installation:** Install cameras for ESB.
- 137. **EOC Vehicle Camera Installation:** Install cameras for EOC Vehicle Shelter.
- 138. **Spring/Santa Fe Camera Installation:** Install cameras at Spring/Santa Fe.
- 139. **Intersection Camera Installation:** Install cameras at Orange Avenue/52nd Street intersection.
- 140. **Gate and Access Control Installation:** Install new gate and access control at 300 Shoreline Drive, Long Beach.
- 141. **AMI Internet Protocol (IP) Cleanup:** Remove unneeded IPs from Access Control List (ACL).
- 142. **DNA Server Upgrade:** Upgrade server that has reached end of life.
- 143. **ACS Server Migration:** Migrate off of server that has reached end of life.

- 144. **Trivial File Transfer Protocol (TFTP) Server Migration:** Migrate off of server that has reached end of life.
- 145. **Access Point (AP) Upgrade:** Upgrade access points that have reached end of life.
- 146. **Wireless Controller Migration:** Migrate to new wireless controller.
- 147. **Azure Government Tenant Setup:** Set up Azure Government Tenant.
- 148. **LA County Equipment Upgrade Support:** Support LA County with their equipment upgrade.
- 149. **Azure Reconfiguration:** Reconfigure Azure with Microsoft.
- 150. **AnyConnect Client Upgrade:** Upgrade AnyConnect Client.
- 151. **Third Internet Service Integration:** Add 3rd internet service at Civic Center for carrier diversity and internet resilience.
- 152. **Library AP Upgrade:** Upgrade library access points.
- 153. **Mobile Command Center (MCC) Vehicle Setup for Health:** Manage project from a network standpoint and deploy configuration accordingly.
- 154. **Fleet Fuel Meter Deployment Assistance:** Assist fleet with their fuel meter deployment.
- 155. **Secondary Azure Express Route Circuit:** Provision and enable 2nd Express Route circuit into Azure to enhance resilience and performance.
- 156. **Intune VPN Setup:** Provide VPN access for mobile devices.
- 157. **Network Services at 123 Elm:** Establish network services at 123 Elm.
- 158. **Network Services at Junipero Beach:** Establish network services at Junipero Beach.
- 159. **Cyber Assessment Network Requirements:** Provide support to Cyber team for their network assessment.
- 160. **City Hall 3rd Floor Redesign Support:** Provide support for 3rd floor redesign at City Hall.
- 161. **New Radio Services and Asset Management Building:** Establish network services, WiFi, Cameras, and security access at new Wireless Building.
- 162. **Public Works (PW) Lot Network Services:** Provide network services at PW Lot.
- 163. **Aquarium Network Services:** Provide network services at Aquarium.
- 164. **PSB Recabling Support:** Provide support for PSB recabling.

- 165. **700 Megahertz (MHz) Trunking Expansion System:** Expand citywide radio communications infrastructure.
- 166. **Ultra High Frequency (UHF)/Very High Frequency (VHF) Conventional System Modernization:** Modernize citywide radio communications infrastructure.
- 167. **Signal Hill Fire Suppression:** Protect radio system equipment at Signal Hill.
- 168. **National Incident Command System (NICE) Recorder for Trunking System:** Record all communications on PD and Fire Department (FD) talkgroups.
- 169. **Virtualized Rail (VXRail) Bonding:** Allow for proper failover and minimize downtime.
- 170. **Azure Server Workload Transition:** Transition server workloads and new server builds to Azure.
- 171. **Azure Backup Strategy:** Develop Azure back up strategy.
- 172. **Windows 2012 Server Cloud Migration:** Move Windows 2012 servers to cloud.
- 173. **BlueZone/Control D Account Cleanup:** Audit and cleanup of BlueZone and Control D access.
- 174. **Data Center Physical Access Process Update:** Update data center access in compliance with PCI standards.
- 175. **Database 2 (DB2) Table Reorganization:** Improve efficiency and performance on the mainframe.
- 176. **Storage Appliance Migration and Consolidation:** Deploy new Powerstore and retire Unity and VNX storage.
- 177. **Linux Server Upgrade:** Upgrade Linux servers to supported versions of Red Hat Enterprise Linux (RHEL).
- 178. **Dashboard Creation:** Monitor backups, patching, system outages, working towards Network Operations Center (NOC).
- 179. **Housing Authority Audio-Visual Implementation:** Install AV in conference rooms at Housing Authority's new location.
- 180. **ECOC Conference Room Audio-Visual Upgrades:** Upgrade conference room AV equipment at ECOC.
- 181. **SPARK Move Catalog Request:** Create a new catalog request for department moves.
- 182. **Energy Resources/Utilities Move:** Move computers and users from Energy Resources to Utilities.
- 183. **Dell Command Update Configuration:** Configure Dell Command Update to automatically install hardware updates.

184. **Printer Purchases:** Purchase, configure, and install printers for the Fire Department.
185. **Managed Print Services Implementation:** Replace current printers and Multi-Function Devices (MFDs) with devices from new selected vendor.
186. **Asset Management Move to New Building:** Move Asset Management including staff and assets to new building on Redondo Ave.
187. **Asset Track Implementation:** Configure and implement all purchased modules of Asset Track.
188. **Extended Input/Output (XIO) Cloud Implementation:** Implement XIO Cloud to manage and support Crestron devices in Civic Center.
189. **Operating System (OS) Migration:** Migrate all computers from Windows 10 to Windows 11.
190. **911 Call Center AI Solution:** Implement AI call center solution.
191. **Belmont Pool Audio-Visual (AV) Design:** Design new AV for Belmont Pool.
192. **City Hall Council Chambers Upgrades:** Upgrade equipment including lighting and sound in Chambers.
193. **Long Beach Television (LBTv) Studio Upgrades:** Upgrade master control room and other spaces in LBTv.
194. **Mobile Billing Application:** Procure an application to track mobile device accounts.
195. **Invitation to Bid (ITB) for Paper:** Conduct ITB to get new vendors for paper.
196. **ITB for Reprographics Vendor Services:** Conduct ITB to get new vendors for services like printing posters.
197. **Mail Insertion Machine Replacement:** Replace mail insertion machine in mailroom.
198. **Postage Meter Machine Replacement:** Replace postage meter machine in mailroom.
199. **Crystal Reports Replacement in Police Department (PD):** Move reports to a different platform.
200. **End User Application Support Practice:** Establish practice to upgrade and replace unsupported versions of desktop applications.
201. **IT Asset Inventory:** Use self-certification module of Asset Track for citywide asset inventory.
202. **Mobile Device Management Transition:** Move all mobile devices to Microsoft Intune.
203. **Windows Endpoint Management with Intune:** Move all Windows devices to Intune for management.

204. **Cyber security related projects:** This title represents 17 distinct cyber security projects to enhance the City's cyber security posture.
205. **LB Co-Lab Cohort 1 Project Close-Out:** Close out Co-Lab Cohort 1 projects.
206. **LB Co-Lab Cohort 2 Pilot Projects:** Support implementation of pilot projects.
207. **Throne Smart Restroom Pilot:** Conduct pilot of Throne smart restrooms.
208. **Intelligent Traffic Signal Pilot:** Conduct pilot of connected vehicle - intelligent traffic signal solution.
209. **Technology Innovation Department (TID) 28 IT Strategic Plan Development:** Manage development of TID28.
210. **Community Learning Hubs Wi-Fi Installation:** Install free public Wi-Fi at four parks and community centers.
211. **City Hall Kiosk Implementation:** Lead implementation of City Hall kiosks.
212. **Community Learning Hubs Chromebook Support:** Support Chrome books at community learning hubs in Park facilities.
213. **Tech to Go Support:** Support Long Beach Library's community learning hubs workstream.
214. **Data Privacy Policy Creation:** Establish Data Privacy Policy and Privacy Evaluation process.
215. **Data Privacy Procurement and Contracting Enhancements:** Ensure data privacy is embedded in procurement and contracting process.
216. **AI Policy and Strategy Development:** Oversee development of Generative AI Strategy document.
217. **AI Education and Training Curriculum Development:** Develop educational materials and content.
218. **Public Wi-Fi Installation at Recreation Community Center:** Install free public Wi-Fi at Recreation Park Community Center.
219. **Mark Twain Digital Skills Program:** Implement digital skills program at Mark Twain Library.

8.2 Glossary of Terms

	Term	Definition
1.	Access Control	The term “access control” denotes a technique used to define or restrict the rights of individuals or application programs to obtain data from, or place data onto, a access to storage device.
	Artificial Intelligence (AI)	Artificial intelligence is a field of science concerned with building computers and machines that can reason, learn, and act in such a way that would normally require human intelligence or that involves data whose scale exceeds what humans can analyze.
2.	As-Is Business Process Map	Graphical business process model used to depict the existing condition of a business process. Used for the analysis of current business process steps and activities. Typically produced with input from business subject matter experts and business process owners.
3.	Automated Workflow	The tasks, procedural steps, organizations or people, required input and output information, and tools needed for each step in a business process. A workflow approach to analyzing and managing a business process can be combined with an object-oriented programming approach, which tends to focus on documents, data, and databases. This is commonly referred to as ‘Automated Workflow.’
4.	Backbone	Another term for bus, the main wire that connects nodes. The term is often used to describe the main network connections composing the Internet
5.	Bulk Load	An automatic data import of scanned documents utilizing the indexing schema attributes for subsequent search and retrieval of electronic documents/records stored in an ECMS.
6.	Business Intelligence (BI)	Often described as “the set of techniques and tools for the transformation of raw data into meaningful and useful information for <u>business analysis</u> purposes. BI technologies are capable of handling large amounts of unstructured data to help identify, develop and create new strategic business opportunities. BI allows for the easy interpretation of large volumes of data. Identifying new opportunities and implementing an effective strategy based on insights, providing businesses with a competitive market advantage. BI technologies provide historical, current and predictive views of business operations. Common functions of business intelligence technologies are reporting, online analytical processing, analytics, data mining, process mining, complex event processing, business performance management, benchmarking, text mining, predictive analytics and prescriptive analytics.

	Term	Definition
7.	Business Process Improvement (BPI)	Business process improvement (BPI) is a systematic approach to help an organization optimize its underlying processes to achieve more efficient results. The methodology was first documented in H. James Harrington's 1991 book Business Process Improvement.
8.	CCTV	Closed-circuit television (CCTV), also known as video surveillance, is the use of video cameras to transmit a signal to a specific place, on a limited set of monitors.
9.	Change Management	An approach to transitioning <u>individuals, teams, and organizations</u> to a desired future state. It focuses on how people and teams are affected by an organizational transition. It deals with many different disciplines, from behavioral and social sciences to <u>information technology</u> and business solutions. In a <u>project management</u> context, change management may refer to the <u>change control</u> process wherein changes to the scope of a project are formally introduced and approved.
10.	Customer Relationship Management Software	Customer Relationship Management, CRM, entails all aspects of interaction a company has with its customer, whether it be sales or service related.
11.	Data Governance	The management of an organization's data to ensure its quality, security, and availability. It involves establishing policies, procedures, and standards for how data is collected, stored, processed, and used. Data quality: Ensuring data is accurate, complete, reliable, and consistent. It has four components: <ul style="list-style-type: none"> • Data privacy: Protect the ability of individuals to control how their personal information is shared • Regulatory compliance: Adhere to laws, regulations, and guidelines that apply to the organization's business processes • Data lifecycle management: Ensure data is handled appropriately at every stage, from creation to deletion • Metadata management: Using data about data to help users derive value from it
12.	Departmental Software	Software providing functionality specific to a department in an organization, features and functions not required by any other department. In government, an example might be a Library Information System or Police Department 911 system, both systems which no other departments require. Departmental application software solves department-specific problems and may integrate with enterprise systems.
13.	DOD 5015.2	Design Criteria Standard for Electronic Records Management Applications, DOD 5015.2-STD: A DOD and NARA approved set of requirements for Electronic Records Management applications.

	Term	Definition
14.	E-Commerce	E-commerce is business that is conducted over the Internet using any of the applications that rely on the Internet, including interactive and transactional functions, e.g., online payments, registration and application submittals.
15.	E-Government	A generic term that refers to any government functions or processes that are carried out in <u>digital</u> form over the <u>Internet</u> . Local, state and federal governments essentially set up central Web sites from which the public (both private citizens and businesses) can find public information, download government forms and contact government representatives.
16.	Electronic Document Management System (EDMS)	Functionality to support the computerized management of electronic and paper-based documents. Associated components include a system to convert paper documents to electronic form, a mechanism to capture documents from authoring tools, a database to organize the storage of documents, and a search mechanism to locate the documents.
17.	Enterprise Architecture (EA)	A discipline for proactively and holistically leading enterprise responses to disruptive forces by identifying and analyzing the execution of change toward desired business vision and outcomes. EA delivers value by presenting business and IT leaders with signature-ready recommendations for adjusting policies and projects to achieve target business outcomes that capitalize on relevant business disruptions.
18.	Enterprise-wide	Deployment or use of a single software application throughout all departments, divisions, or components of the organization.
19.	Enterprise Content Management System (ECMS)	An automated system with the functionality to capture, manipulate, retrieve, and publish the entire inventory of digital assets (e.g., web pages, office documents, databases, scanned images, digital photos, digital video, digital recordings, e-mail) created by an organization.
20.	Electronic Record	The information recorded in a form that requires a computer or other machine to process it and that satisfies the legal definition of a record according to section 3301 of Title 44 of United States Code (USC).
21.	Electronic Records Management System (ERMS)	A collection of hardware, software, staff, policies, and procedures that work in concert to enable an agency to effectively manage records electronically. A software product that identifies, classifies, and disposes of records according to specified records disposition policies.

	Term	Definition
22.	Enterprise Resource Planning System (ERP)	Business management software that allows an organization to use a system of integrated applications to manage the business: e.g., Finance, Human Resources, Asset Management, Customer Relationship Management, Project Management, Business intelligence, to name a few.
23.	Enterprise Software	Enterprise applications (e.g., CRM, ERP, BI) assist an organization in solving enterprise/City-wide problems. They integrate with other enterprise systems.
24.	E-Services	<p>The concept of e-service (short for electronic service) represents one prominent application of utilizing the use of information and communication technologies (ICTs) in different areas.</p> <p>'E-Service constitutes the online services available on the Internet, whereby a valid transaction of buying and selling (procurement) is possible, as opposed to the traditional websites, whereby only descriptive information is available, and no online transaction is made possible.'</p>
25.	Ethernet	A local-area network (LAN) architecture that uses a bus or star topology and supports data transfer rates of 10 Mbps.
26.	Fiber Optics	A high-bandwidth transmission technology that uses light to carry digital information. One fiber telephone cable carries hundreds of thousands of voice circuits. These cables, or light guides, replace conventional coaxial cables and wire pairs. Fiber transmission facilities occupy far less physical volume for an equivalent transmission capacity, which is a major advantage in crowded ducts. Optical fiber is also immune to electrical interference.
27.	File Plan	A document containing the identifying number, title, description, and disposition authority of files held or used in an office.
28.	E-Forms	Program development tools that build applications by designing electronic forms for data entry, update or processing. Electronic forms are generally designed with visual programming tools that allow fields, buttons and logos to be drawn directly on screen.
29.	E-Signatures	An electronic sound, symbol, or process attached to or associated with a contract or other record and used as the legal equivalent of a written signature.
30.	Geographic Information System (GIS)	GIS is a collection of computer hardware, software and geographic data for capturing, managing, analyzing and displaying every form of geographically referenced information, often called spatial data.

	Term	Definition
31.	Image Capture (scanning)	A process whereby documents are scanned into a system and stored electronically. Imaging is the digital capture, storage, manipulation and delivery of copies of digitized originals, which may be texts, manuscripts, pictures or other information types.
32.	Infrastructure	An enterprise's entire collection of hardware, software, networks, data centers and facilities used to develop, test, operate, monitor and/or support information technology services.
33.	Interoperability	The ability of software and hardware on different machines from different vendors to share data.
34.	Internet Service Provider (ISP)	Refers to a company that provides Internet services, including personal and business access to the Internet.
35.	IT Governance	The processes that ensure the effective and efficient use of IT in enabling an organization to achieve its goals. IT demand governance (what IT should work on) is the process by which organizations ensure the effective evaluation, selection, prioritization, and funding of competing IT investments; oversee their implementation; and extract measurable business benefits. ITG is a business investment decision-making and oversight process, and it is a business management responsibility. IT supply-side governance (how IT should do what it does) is concerned with ensuring that the IT organization operates in an effective, efficient and compliant fashion, and it is primarily a CIO responsibility.
36.	ITS	Short for Federal Intelligent Transportation Systems, it is a broad range of wireless and wired communications-based information and electronics technologies that are integrated into the transportation system and in vehicles themselves. ITS is made up of 16 types of technology-based systems.
37.	Life Cycle	The records life cycle is the life span of a record from its creation or receipt to its final disposition. It is usually described in three stages: creation, maintenance and use, and final disposition.
38.	Metadata	In the context of records management, meta-data is the structured or semi-structured information which enables the creation, management and use of records through time and within and across domains in which they are created.

	Term	Definition
39.	Open Data	The idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. The goals of the open data movement are similar to those of other "Open" movements such as open source, open hardware, open content, and open access. The term "open data" is recent, gaining popularity with the rise of the Internet and World Wide Web and, especially, with the launch of open-data government initiatives such as Data.gov and Data.gov.uk.
40.	Optical Character Recognition (OCR)	The recognition of printed or written text characters by a computer. This involves analysis of the scanned-in image and then translation of the character image into character codes, such as American Standard Code for Information Interchange (ASCII). OCR is applied to image (raster) files to create text-searchable files.
41.	PBX System	A private branch exchange (PBX) phone system that's delivered as a hosted service, typically by one of the major telephone companies.
42.	Portable Document Format (PDF)	This format is proprietary to Adobe Inc. and is widely used as a de-facto data exchange method.
43.	ThirdWave Rapid Workflow® Process Modeling®	US Patent 8615423 B1: A method of Rapid Workflow® process modeling, which is established according to a triangulation principle. The method integrates issues of management, operation and technology including information technology that are three fundamentals of a triangulation principle to characterize challenges and opportunities for process improvement of any organization including military units, governmental agencies and public and private business sectors. Specifically, the method is comprised of seven steps such as the As-Is process mapping, problem statements, impact statements, solution statements, benefit statements, To-Be process mapping and cost benefit analysis for generating a quantitative projection of the business cost reduction. Application of the method is able to comprehensively and effectively address challenges and opportunities for all aspects of the organizational process improvement.

	Term	Definition
44.	Record	The information, regardless of medium, that details business transactions. Records include all books, papers, maps, photographs, machine-readable materials, and other documentary materials, regardless of physical form or characteristics. Records are made or received by an Agency under Federal law or in connection with the transaction of public business. Records are preserved or appropriate for preservation by that Agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations, or other activities of the Government, or because of the value of data in the record.
45.	Records Manager	Individuals who are responsible for records management administration.
46.	Retention Period	<p>The length of time that a record must be kept before it can be destroyed. Records not authorized for destruction are designated for permanent retention. Retention periods for temporary records may be expressed in two ways:</p> <ul style="list-style-type: none"> • A fixed period from the time records in the series or system is created. Normally, a fixed period that follows their regular cutoff dates. For example, the phrase “destroy after 2 years” provides continuing authority to destroy records in a given series 2 years after their creation (normally 2 years after their regular cutoff date). • A fixed period after a predictable event. Normally, a fixed period following the systematic cutoff applied after completion of an event. The wording in this case depends on the kind of action involved.
47.	Retention Schedule	A plan for the management of records listing types of records and how long they should be retained by the organization for business purposes; the purpose is to provide continuing authority to dispose of, transfer, or archive records.
48.	SAN	A Storage Area Network (SAN) is a network that provides access to consolidated, block-level data storage. SANs are primarily used to enhance storage devices, such as disk arrays, tape libraries, and optical jukeboxes, accessible to servers so that the devices appear to the operating system as locally attached devices.

	Term	Definition
49.	Service-Oriented Architecture (SOA)	An architectural pattern in computer software design in which application components provide services to other components via a communications protocol, typically over a network. The principles of service-orientation are independent of any vendor, product or technology. Services can be combined to provide the functionality of a large software application. ^[3] SOA makes it easier for software components on computers connected over a network to cooperate. Every computer can run any number of services, and each service is built in a way that ensures that the service can exchange information with any other service in the network without human interaction and without the need to make changes to the underlying program itself.
50.	Taxonomy	The study of the general principles of scientific classification: systematics; classification; especially orderly classification of plants and animals according to their presumed natural relationships. Taxonomy is a high-level, hierarchical classification for documents and records that facilitates the management (storage, access, retrieval, revision, archiving, and disposition) of recorded information throughout its life cycle. A taxonomy is a living document that changes as the work within the company changes. It is never final because organizations constantly change their content types, processes and organizational structures.
51.	ThirdWave Strategic Planning Triangulation® Methodology	ThirdWave's Strategic Planning Triangulation methodology is a powerful technique that facilitates validation of data through cross verification from two or more sources. This is accomplished by the collection and synthesis of data from three: Management perspective (Organizational, policy and finance), Operational perspective (business process and practices), and Information Technology perspective (enterprise-wide systems). In particular, it refers to the application and combination of several research methods in the study of the same phenomenon to produce comprehensive and thorough strategies based on a compelling business case. It is the framework for Rapid Worklow®.
52.	To-Be Business Process Map	Graphical business process model used to depict the future state (To-Be) condition of a business process. Used for the design of reengineered business process steps and activities. Typically produced with input from business subject matter experts/business process owners.
53.	Waterfall Methodology	The waterfall model is a sequential design process, used in software development processes, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design, construction, testing, production/implementation and maintenance.

	Term	Definition
54.	Web Browser	Web browser is a software application used to locate, retrieve and display content on the World Wide Web, including Web pages, images and video.
55.	Wi-Fi	Wireless-Fidelity certification mark issued by the Wi-Fi Alliance to certify that a product conforms to the 802.11b, g and a standard for WLANs.
56.	XO ISP Bandwidth	Bandwidth Shaping. The process of manipulating, managing or controlling (shaping) portions of a network connection to the outside world and determining an allowed bandwidth consumption based on types of activities. The term is commonly used in conjunction with Internet Service Providers (ISP), where it refers to a tool that is used to limit or direct bandwidth consumption by users.