City of Corinth

Technology Strategy

2022-2027

November 2021

CONTENTS

Summary

The City of Corinth seeks to create and document a five-year strategic technology plan to aid staff and management in choosing the best investment of limited technology resources. This summary describes the understanding of your situation and proposed project objectives, scope, assumptions, approach, schedule, team, and fees.

Background

The City's Technology Services department strives to enhance the vitality and quality of life for all in Corinth by empowering the employees, residents, visitors, and businesses through sustainable, reliable, efficient, and effective technology services, infrastructure, and smarter government. Over the past five years, the department has grown in staff and complexity of the technology environment in response to the needs of the community and the delivery of municipal services.

Project Objectives

The overall objective of this project is to develop a five-year technology strategic plan that supports the City's plan and provides greater detail of leveraging technology in city government. Specific objectives are:

- Align the technology strategic plan with the City's plan
- Enable the Technology Services department to be proactive versus reactive
- Engage City leadership in developing the plan
- Identify opportunity of technology investments over the course of the plan
- Create a plan to guide operational activities of the Technology Services department

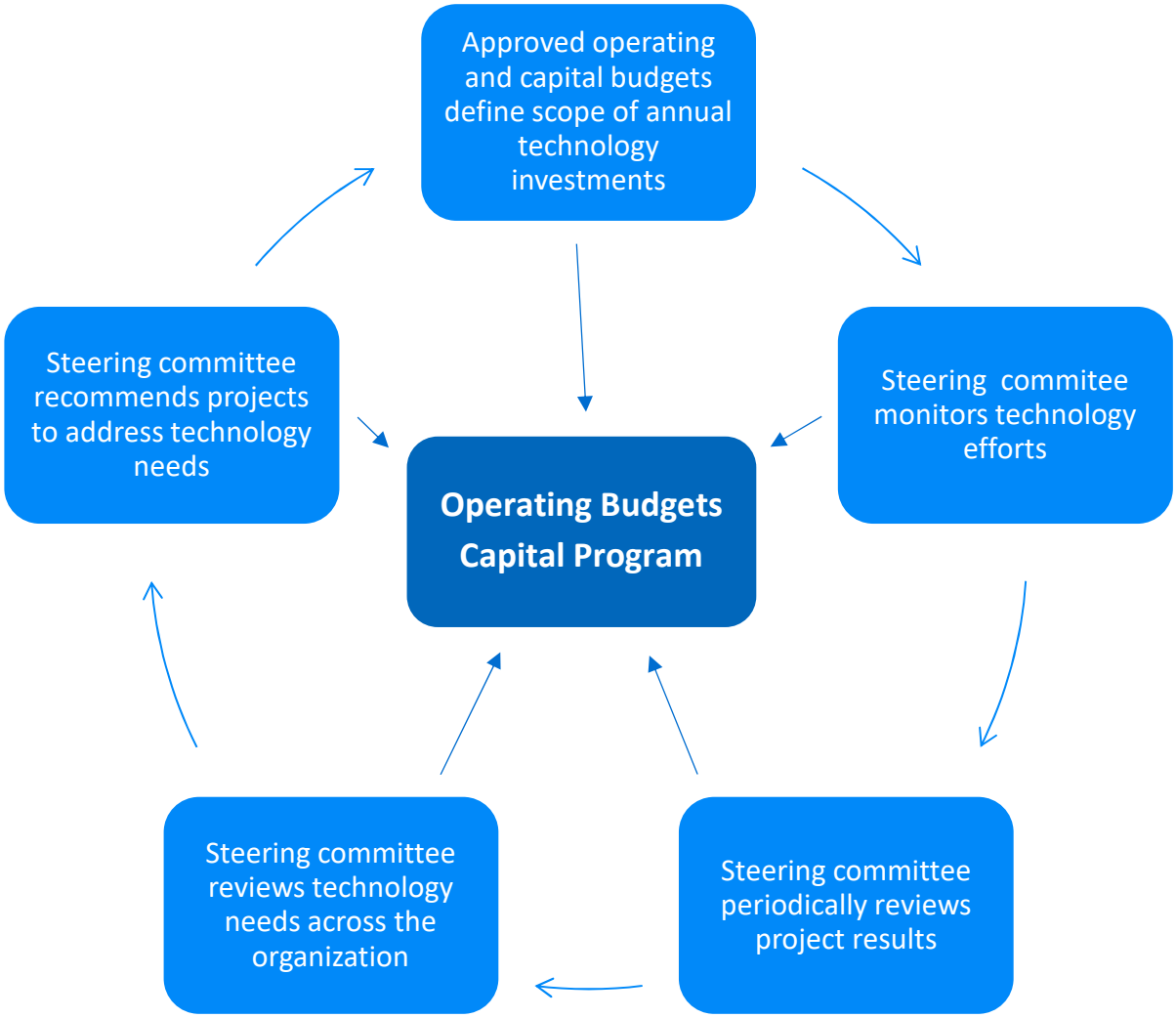
Interviews with Technology Services staff and the leadership of the other operating departments of the City. This Strategy Document identifies implications of the City-Wide Strategic Plan, documents the key Information Technology Strategies, and documents a governance structure to oversee the implementation of the plan.

Recommendations

- Revive governance practices – Corinth has a Technology Steering Committee which exercises governance over the technology investment for the city. This committee should reengage with technology activities to align the organization, management, and technology staff with the goals of the city.
- Adopt standard IT service delivery framework – The Information Technology Infrastructure Library (ITIL) documents best-practice in IT service delivery for organizations of all sizes. Corinth can benefit from judiciously choosing a few standard practices to implement with technology staff.
- Create IT internal service fund – Technology Services is currently a division of the General Fund. Creating an internal service fund to track goods or services shifted between departments on a cost reimbursement basis will improve management of the total cost of technology investments across the city. The fund will also aid in planning long term capital investments and replacement without significant variances in annual budgets.
- Align IT staff with efforts for success – Public Safety departments experience rapid expansion of technology in the department operations in recent years. IT staff were collocated and integral in the transition. This is a model of success for rapid technology deployment for other departments.

Governance

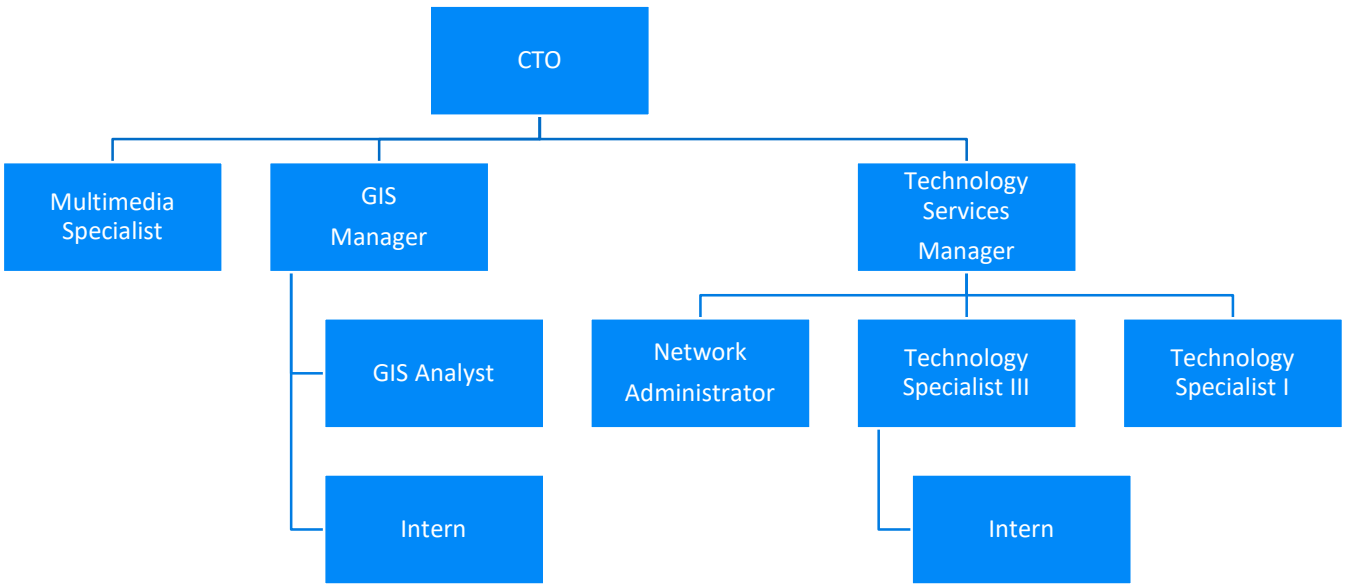
Governance is the process by which management aligns the technology investments with the goals and objective of the organization. A Technology Steering Committee comprised of City leadership will resume the oversight role for the City of Corinth. The Committee will routinely review project effort and determine the best utilization of limited resources to be invested in technology across the City departments. The review cycle is depicted below and is executed as part of the annual budget development process.



Budgets are approved in October for annual efforts. The Steering Committee will periodically review project status and assist in resolving risks or issues identified by project activities. Prior to next-year budget process kickoff, the Steering Committee will review technology needs identified in this plan and others that emerge throughout the year as a result of operations or changes in priorities of the City. The Committee will prioritize efforts based on needs and available resources and make a recommendation for projects to be funded in the next-year budgets. Once the next-year budget is adopted and the new fiscal year begins, the process starts over again.

Baseline Assessment

The Technology Services Department is comprised of eight full-time employees, of which five provide Information Technology solutions and services to the rest of the departments within the city government. Under the direction of the Chief Technology Officer, the services include voice and data communications; software and computing systems; and also, end-user computing such as desktops, laptops and tablet computers. The Geographic Information Systems function provides digital mapping services to City departments and regional services to other area agencies. In addition, a Multimedia Specialist produces video assets and assists in video streaming operations, and two intern positions that aid in delivering various services to departments. The network is comprised of six locations (soon to be seven) with 164 active users. There are approximately 71 business applications augmenting the business operations of the City. There are 233 personal computers, 37 tablets and 15 cellphones managed by the department. The primary data center is housed in City Hall with an additional data center in the Public Safety Building servicing law enforcement.



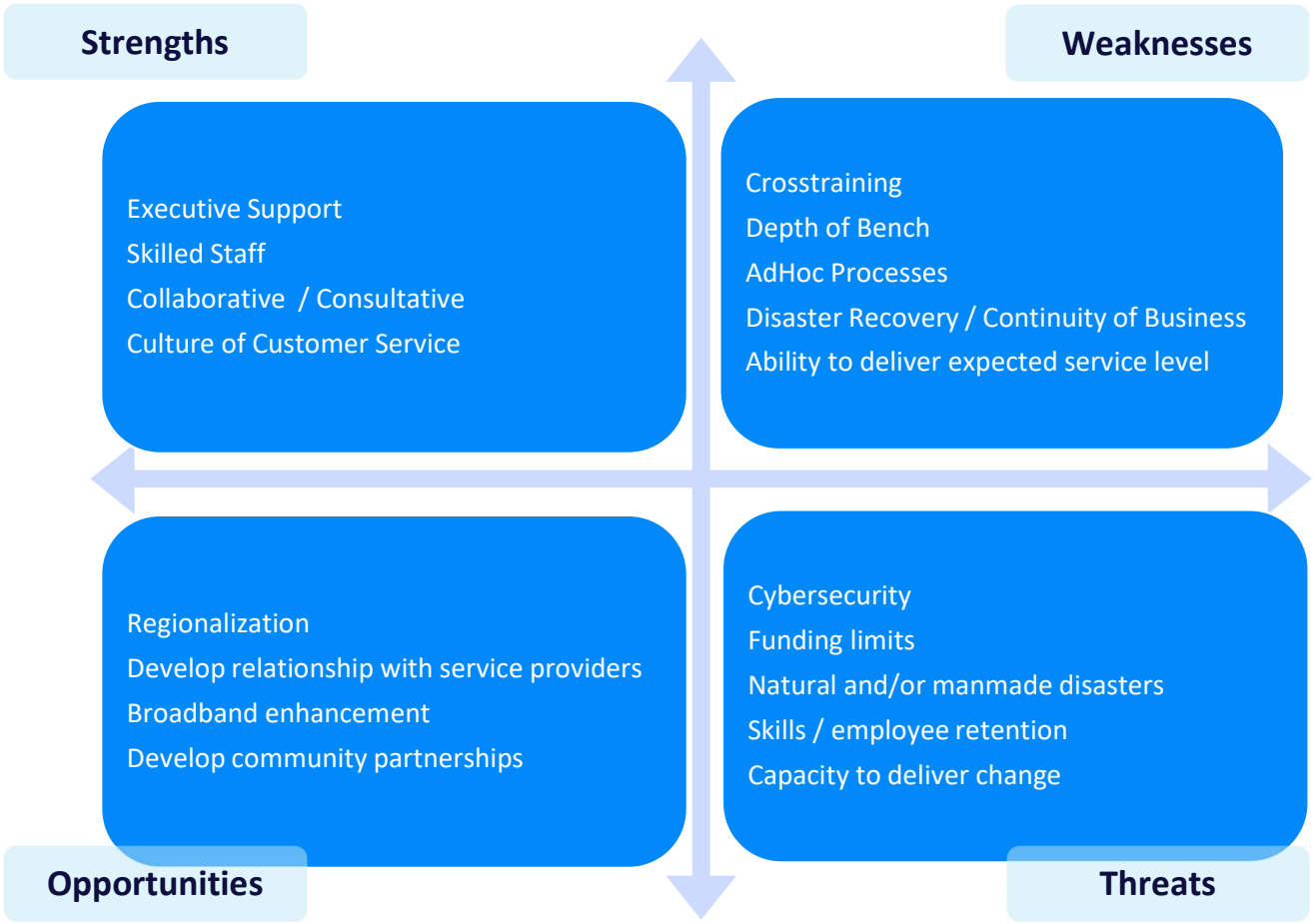
"We want to shift from constantly reacting to proactive management"

"Customer Service drives everything we do"

The TS department staff is small, as is typical for cities of the size of Corinth. There are challenges with a small staff regardless of the department function. Employees will occasionally have illness or take accrued vacation. A doctor appointment or childcare needs can take employees aware from their duties. Often there is only one employee with a specific skillset or performing a specific function when the staff is small. When an employee is absent, service disruptions can be unavoidable. Also, upward progression is difficult when a department has few positions. Employees can only progress when turnover occurs. This can create difficulties in retaining skilled or professional staff.

Corinth should focus on opportunities for cross training employees to the greatest extent possible. Cross training will create opportunities for professional development for staff to learn new skills, while aiding in the retention of employees who may otherwise leave the organization. Cross training can also help avoid service disruption when the primary employee takes leave. Corinth should also develop formal, written progression plans to be shared with employees to motivate and retain employees who may otherwise leave the organization for career progression.

SWOT Analysis



A SWOT analysis was performed with the following insights.

Strengths:

- The Technology Services (TS) Department has strong executive support to leverage technology to the greatest extent in delivering municipal services to the community.
- TS staff are skilled and competent in their roles and routinely achieve goals and objectives set by management.
- TS staff and colleagues in the other departments collaborate on technology initiatives and the development of technology plans.
- All of the TS staff have instilled a culture of customer service with the objective of delivering a consistently high level of service to the customer.

Weaknesses:

- The TS staff is specialized and supports a broad range of operations across the City. Each position has only one employee with a focus on their specialty. The volume of work affords little time for training across specialties.
- Since each position has only one employee, there is not a backup for the primary employee. Disruption to service delivery can occur when employees are out sick, on vacation or when turnover occurs.
- There is a minimum level of redundancy in Corinth's technology infrastructure. Best practice is to have redundancies for mission critical systems in a separate geographic location for continuity of business.
- As the City grows and demand for municipal services grows, the TS staff will be challenged to maintain service levels at current staffing levels.

Opportunities:

- Corinth and surrounding areas are experiencing rapid growth. Area communities can achieve efficiencies and minimize costs to taxpayers and rate payers by providing service in a regional approach.
- Corinth can gain benefits and influence commercial capital investment by developing relationships with service providers in the community, particularly in infrastructure technologies such as communication networks and Internet Service Providers.
- The community demographic is comprised of people who expect and depend on robust data communication networks and Internet connectivity. Driving service provider investments in this area will attract further development and benefit the City government.
- Community partners such as school districts, higher education, government entities, and private property owners are independently making investments in technology for their operations and security. Partnerships can be developed to cultivate mutual benefits from these investments with minimal impact to Corinth budgeted expense.

Threats

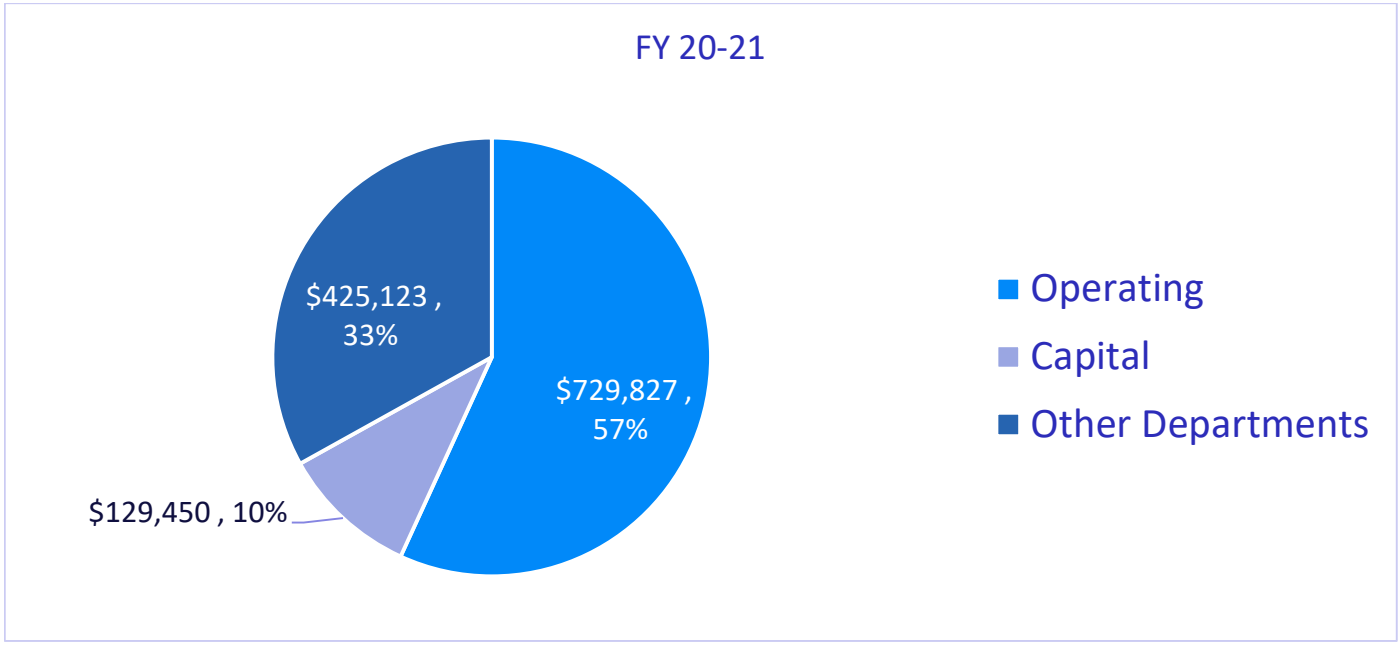
- Cybersecurity is a persistent and evolving threat to organizations of all sizes and all industries. Board rooms and governing bodies across the country are increasing focus and emphasis on mitigating cyber threats.
- Funding limits are putting pressure on local government budgets. Along with the increased demand for municipal services that comes with a growing community, the Texas State Legislature is limiting local control and municipal government's ability to increase revenues.
- Natural and manmade disasters can impact municipal infrastructure and staff disrupting the ability to provide municipal services to the community.
- A skilled workforce is necessary to deliver the high level of service and the modern methods of service delivery demanded by communities. Attracting and retaining skilled workers is critical to successful service delivery.
- The capacity to deliver change within every organization is limited. Organizations must think about the ability to adopt and ingrain new technology and work processes to maximize capital investments in technology.

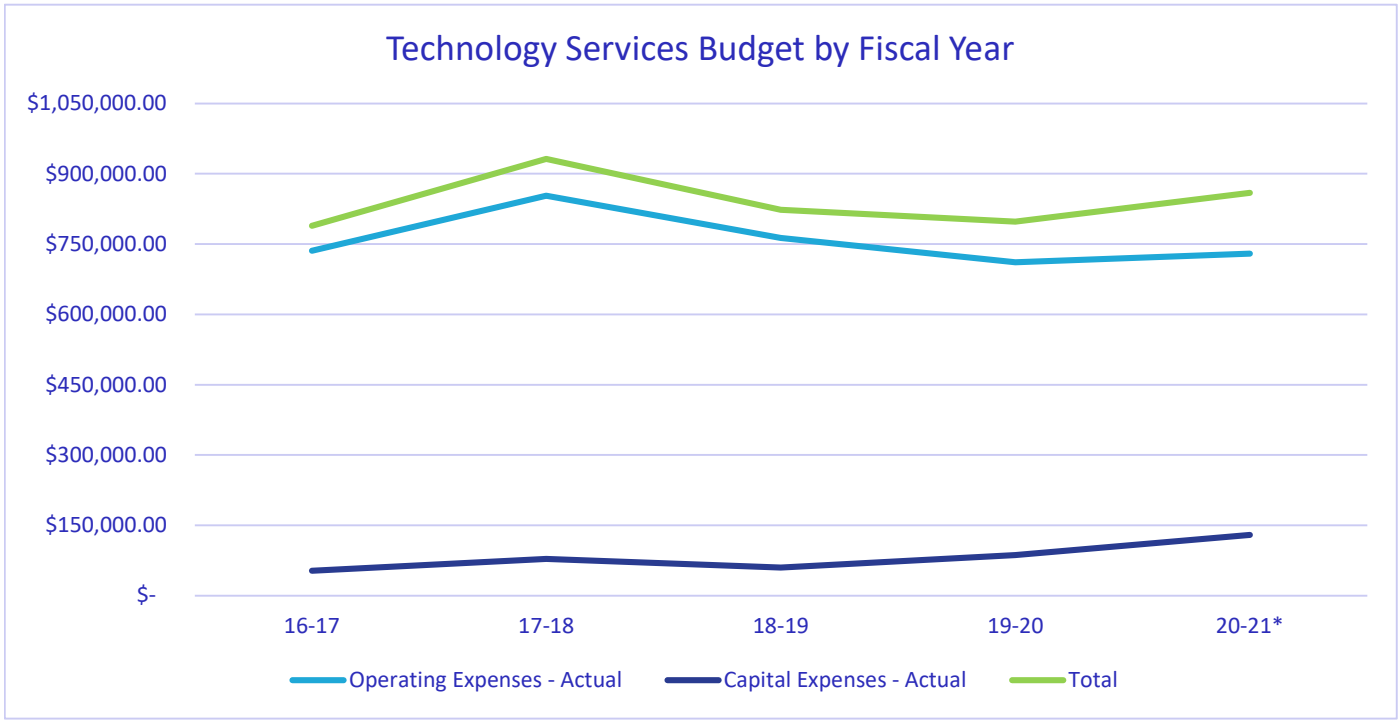
Financials

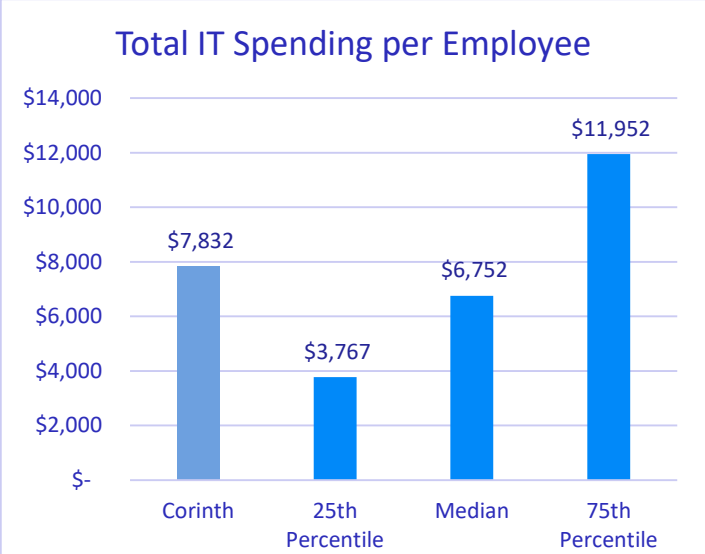
The City expended $1,284,400 on information technology in FY 20-21 which represents 3.3% of total revenues for the same period. These expenses were divided among operating expense, including salaries and benefits (57%); capital outlay (10%); and software maintenance expense paid in other department budgets (33%). In comparison to benchmark organizations, Corinth IT expenditure as a percentage of revenue of 3.3% is between 25th percentile and the median. The level of technology funding has remained consistent over the past five years.

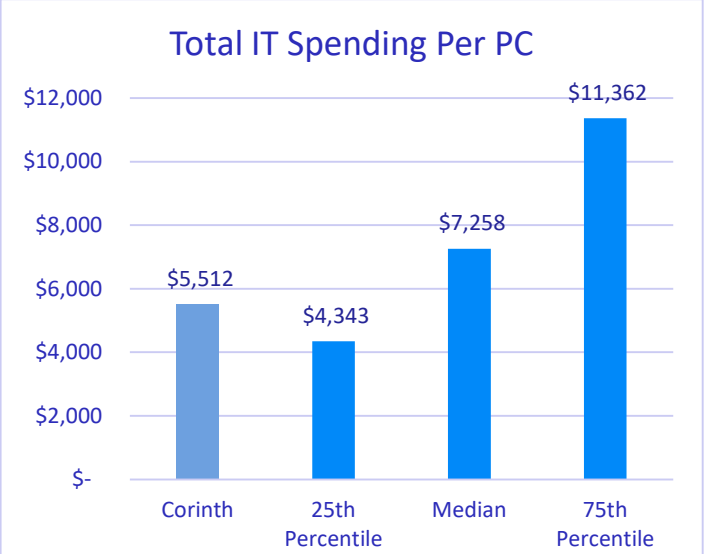
To normalize comparisons across organizations of different sizes, expenses are divided by the number of employees and the number of computers including desktop and laptops. Corinth's IT spending per employee is $7,832 which is slightly above the benchmark median of $6,752. Spending per computer is $5,512 which is slightly below the benchmark median of $7,258. Both metrics indicate an appropriate investment in technology for a municipal government organization and not out of line with comparable organizations.

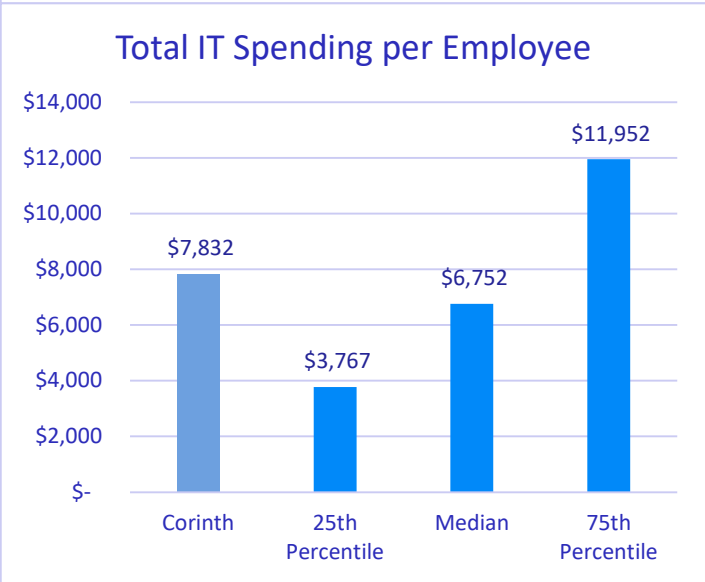
Personnel costs including salaries and benefits represent 44% of technology expense which exactly matches the benchmark cities indicating staffing levels are adequate.

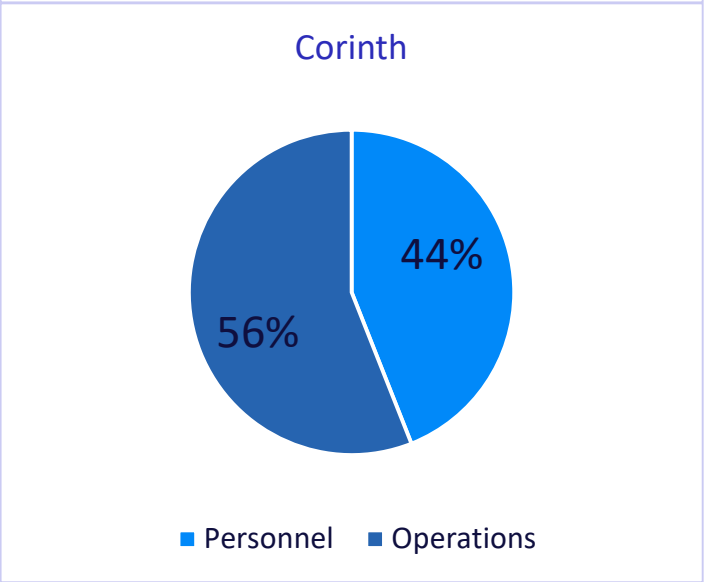

FY 20-21
$425,123 , 33%
$729,827 , 57%
$129,450 , 10%
Operating
Capital
Other Departments


Technology Services Budget by Fiscal Year
$1,050,000.00
$900,000.00
$750,000.00
$600,000.00
$450,000.00
$300,000.00
$150,000.00
$-
16-17
17-18
18-19
19-20
20-21*
Operating Expenses - Actual
Capital Expenses - Actual
Total


Total IT Spending per Employee
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$-
$7,832
$3,767
$6,752
$11,952
Corinth
25th Percentile
Median
75th Percentile


Total IT Spending Per PC
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$-
$5,512
$4,343
$7,258
$11,362
Corinth
25th Percentile
Median
75th Percentile


Total IT Spending per Employee
$14,000
$12,000
$10,000
$8,000
$6,000
$4,000
$2,000
$-
$7,832
$3,767
$6,752
$11,952
Corinth
25th Percentile
Median
75th Percentile


Corinth
44%
56%
Personnel
Operations

Management

Strong IT managers take measures to align the IT organization's efforts with the goals and objective or the broader organization. In this manner the IT organization can deliver tremendous value compared to the resources invested. Corinth has a Technology Steering Committee comprised of the senior leadership that is intended to guide the technology investments of the City to achieve the greatest value. This committee should resume regular meetings to aid the Technology Services department in implementing the objective of the technology plan.

The Information Technology Infrastructure Library (ITIL) is a set of documented best-practice processes and procedures for robust and predictable IT service delivery. ITIL is applicable to technology operations of all sizes, though smaller organization implement only a subset of the processes as a practical matter. Corinth delivers a high level of customer service, but it does so in an ad-hoc manner. This approach will not scale up as Corinth implements more technology to aid in municipal service delivery. ITIL can aid Technology Service department managers to streamline and standardize service delivery; document processes; formalize and measure service levels; and support continue process improvement efforts. Specifically, Corinth should work to implement the following practices: Service Desk, Service Level Management; Change Management; Measurement and Reporting; Information Security; and Continuous Improvement. These changes will take sustained effort over the term of the technology plan. A nominal schedule is provided below with information security spread throughout the plan.

- *Year 1* - Service Desk to capture and categorize all incidents/build KB
- *Year 2* – Service Level Management to prioritize all services (High/Medium/Low) and develop service level targets
- *Year 3* – Change Management – perform gap analysis and formal documentation of change management procedures
- *Year 4* – Measurement and reporting
- *Year 5* – Continuous improvement: Plan – Do – Check – Act loop

Technology Strategy

Discussions with staff and management lead to the development of the following technology goals:

- **Leverage Digital Systems** – using systems instead of labor-intensive, manual processes will gain efficiencies in the operations of Corinth. Existing technology investments should be utilized to the greatest extent to drive return on investment.
- **Workforce Multipliers** – labor is one of the greatest expenses of municipal government. Systems can help increase the productivity of the existing workforce to meet the needs of growing demand for municipal services.
- **Data-driven Management** – data is generated continually as a result of daily operations. This data can be collected and analyzed to provide insights in support of management decision-making and wise deployment of limited resources.
- **Community Partnerships** – seeking to involve community partners in the process of governing and municipal service delivery can drive civic engagement, support regionalization efforts, and create an ecosystem where community members make technology investments and share the benefits with community members.
- **IT Service Management** – management governance, standards-based service delivery combined with staff development creates a robust IT organization that can support rapid deployment and adoption of technology throughout the organization.

Goal A: Leverage Digital Systems

Government organizations tend to have many labor-intensive, paper-based processes since these are relatively easy to implement, require less training and computer skills, and on the surface appear to be a least-cost approach. However, the labor cost and error rate for this approach quickly overcome cost savings as the operation scales. By leveraging digital systems, business leaders can avoid unforeseen cost implications. The efficiency aspect should be considered for every new initiative and when redesigning processes.

1. Drive return on investment with existing systems – Corinth made substantial investments in digital systems prior to developing this plan. Expanding use of these systems to the greatest extent will maximize these prior investments.
2. Implement new digital systems – parts of the organization continue managing work with spreadsheets and paper documentation. Implementing work management and asset tracking systems will improve accuracy and streamline operations.
3. Technology foundation – digital systems rely on a robust, reliable, and redundant technology infrastructure requiring continual update and renewal of the software and equipment.

Goal B: Workforce Multipliers

Demand for municipal services is growing as an influx of development occurs in the community. Revenues lag behind the increase in demand because of the lag in appraisals. This means that the existing workforce has to increase service delivery without increases in headcount. Workforce multipliers are technologies that increase the capabilities of the workforce without additional labor.

1. Labor saving technology – often described as “smart city” technologies, labor saving technology can increase the efficiency of tasks so that employees can accomplish the same or better service level with less effort.
2. Drive continuous process improvement – driving errors and inefficiencies out of work processes will recover unproductive time to be invested in more value-added tasks.
3. Flexibility in accessing digital resources – the workforce is utilizing the City’s computing resources in more field and remote site locations. Getting more value out of resources means having the resources available wherever work is performed.

Goal C: Data Driven Management

The City of Corinth generates thousands of data points every day as a result of operations. Responses to requests for service or requests for information create data. Fleet vehicles generate high resolution data about their movements, utilization and operating efficiency. Billing systems, asset management systems, building environmental systems all generate data that can be captured and analyzed to gain management insights about the work of the government and deployment of limited resources.

1. Capture operational data to support management decision making – consider the information needed to measure, monitor, improve, and report the status and health of business processes and ensure the data needed is collected.
2. Make data available – collecting information about operation will help managers make wise decisions and has the added benefit of supporting government transparency.
3. Develop data driven skillset in staff – supporting the City-wide goal of professional development, data-driven skills must be developed in the workforce to make use of the information collected about the operations.

Goal D: Community Partnerships

Many organizations in the community are making independent plans to invest in technology efforts. Other government organizations, educational institutions, private service providers, some residential and commercial property owners throughout the community will be purchasing technology for their use and purposes. Coordinating efforts can generate economies of scale and uses which would not require funding above what is currently planned and budgeted. The effort invested in coordination can generate many mutual benefits without increasing expense.

1. Civic engagement – there is public mistrust in government at all levels: Federal, State and Local. Engaging the public in the process of governing will help dissolve mistrust.
2. Regional service provider – duplication of efforts and building duplicate service delivery infrastructure across multiple communities is inefficient and stretches limited resources thin. Taking a regional approach can achieve great efficiencies as pressure on general fund revenues and enterprise fund capital increases.
3. Partner ecosystem – engaging community partners and combining public technology investments with private investments can generate mutual benefits and lower expense.

Goal E: IT Service Management

Technology can generate great value when leveraged to support government operations, but it will have to be supported and maintained just like other equipment. Keeping the technology infrastructure functioning at peak performance requires the commitment of the organization and deliberate management planning. Planned and reactive maintenance activities are necessary to keep existing technology infrastructure operating at peak performance. Resource planning is necessary to manage the technology life cycle of that infrastructure. Engaging the entire organization in the planning effort garners support and aligns efforts with the goals of the organization.

1. Management governance – a robust management governance system can ensure that the limited resources are invested in the areas of greatest benefit to the overall organization.
2. Information Technology Infrastructure Library (ITIL) – adopting standard processes for IT service delivery can ensure a consistently high level of service delivery
3. Technology staff development and progression – creating a career path and mobility for staff with in-demand skillset will help keep skills current and retain skilled employees.

Technology Plan

Goal	Strategy
A - Leverage Digital Systems	**A1 - Drive return on investment of existing systems**
	A2 - Implement new systems where none are used
	A3 - Ensure a strong technology foundation
B - Workforce Multipliers	**B1 - Labor saving technology**
	B2 - Drive continuous process improvement
	B3 - Flexible access to digital resources
C - Data-driven Management	**C1 - Data supports management decisions**
	C2 - Data is available
	C3 - Develop data driven skillsets
D - Community Partnerships	**D1 - Civic engagement**
	D2 - Regional service provider
	D3 - Partner ecosystem
E - IT Service Management	**E1 - Governance structure**
	E2 - Information technology infrastructure library (ITIL)
	E3 - Technology staff development and progression

The tables below outline the projects planned. The plan should be reviewed and revised each year as part of the budget preparation process. Priorities can change within the organization and available funding levels fluctuate. Project cost will change in response to economic conditions. Cost estimates should be gathered for the next year effort and entered in the plan as part of the capital budgeting process.

Category	Project	FY22	FY23	FY24	FY25	FY26
Leverage Digital Systems	Physical Security		X	X	X	X
	Watchguard access point at City Hall		X			
	Call Center Upgrades (ARP)	110,000				
	SCADA Firewall	6,900				
	EOC SCADA System (ARP)	25,000				
	Point to point radio (ARP)	75,000				
	Annual Computer rollout	100,000	X	X	X	X
	Laserfiche License additions	19,000				
	Laserfiche Forms Expansion - Records Retention		X	X	X	X
	Investment Management System			X		
	Financial Report Preparation Software			X		
	Court Audio/Visual Upgrades for in-person hearings		X			
	City Hall Audio/Visual Equipment	10,000				
	Fiber installation for FS 1			X		
	Online transactions				X	

Category	Project	FY22	FY23	FY24	FY25	FY26
Workforce Multipliers	Lift station Camera System (ARP)	75,000				
	WW Video Management System (ARP)	31,500				
	License Plate Reader Cameras		X	X	X	X
	Watchguard Cameras		X	X	X	X
	Airdata - Drones		X			
	Bigbelly Solar Trashcans		X	X	X	X

Category	Project	FY22	FY23	FY24	FY25	FY26
Data Driven Management	Planning and Development System		X			
	Public Works Asset management / workorder system		X	X	X	
	Parks Irrigation system		X	X	X	
	Employee onboarding system	6,000				
	Time entry system	27,500				

Category	Project	FY22	FY23	FY24	FY25	FY26
Community Partnerships	Community Engagement Projects		X	X	X	X
	NCTC Relationship	X	X	X	X	X
	Neighborhood Association Relationships		X	X	X	X
	Commercial Property Owners Relationships		X	X	X	X
	Regional Service Delivery - Police - Fire - Broadband - LCMUA GIS	X	X	X	X	X

Category	Project	FY21-22	FY22-23	FY23-24	FY24-25	FY25-26
IT Service Management	ITIL Framework	X	**X**	**X**	**X**	
	IT Ticketing System	X				
	Management Governance structure	X				
	Information Security - Keypass - Email Encryption - Multifactor Authentication		X	X	X	X