



# Information Technology Services

SUPPORT | SECURE | CONNECT | ANALYZE | EVOLVE

## BUSINESS PLAN 2023 - 2027

*Mission: To deliver best in class technical leadership, solutions, and support while adhering to security and compliance standards.*



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# INTRODUCTION

## Role

The Information Technology Services department provides technical support to all city staff and elected officials. It is our job to support users, secure the network, connect systems, analyze data and evolve the human capital.

## Divisions

The department is comprised of six strategic divisions. Each is responsible for a distinct area of information technology provision and is staffed by personnel skilled in that specific discipline.

- **Support Division**
  - The support division is responsible for providing help-desk support to all city employees. This support includes hardware and software installation, incident response, and security updates. They are also responsible for purchasing all end-user equipment (PCs, phones, printers, cameras, etc). Support is responsible for server level application administration and updates for several city-wide applications. This division also provides embedded, direct support to Police, Fire, Library and Public Services departments.
- **Security Division**
  - The security division is responsible for monitoring the IT infrastructure for unauthorized access from both external and internal actors. They are responsible for determining

compliance with data storage, access and transit regulations regarding certain types of data (HIPAA, PCI, PII, etc).

- **Systems Division**
  - The systems division is responsible for server-installation, server operating system updates, server-application installations/updates, enterprise data-storage and enterprise backup and recovery systems.
  
- **Network Division**
  - The network division is responsible for implementing and maintaining campus-to-campus computer connectivity ("the network"). Connectivity is achieved via wired and wireless infrastructure.
  
- **Development Division**
  - The development division is responsible for making enterprise data accessible to employees and the public through the creation of automatic electronic reporting and small-application development (web apps).
  
- **GIS Division**
  - The geographic information systems (GIS) division is responsible for creating and maintaining enterprise spatial datasets and making that data available to employees and the public via mapping applications.

## History

The City's Information Technology Department was officially established in fiscal year 1998 and consisted of four employees. All City electronic services were run from mainframe applications and delivered via emulation to terminals for use. The early initiatives of the department were to establish a modern local area network to enable personal computers to communicate with terminal-servers to deliver application services.

## Software Maintenance Contracts

The department manages over \$1,000,000 in software contracts annually. Below are some of the larger city software maintenance amounts. Not all are paid for solely by the IT department.

Software	Area	Annual Maintenance
CAD/RMS	Police, Fire	\$225,000
IT Network Management	ITS	\$165,000

Finance+HR Software	Finance, HR	\$140,000
Network-User Licenses	City-Wide	\$94,000
Server Virtualization	ITS	\$90,000
Email	City-Wide	\$90,000
GIS Software	ITS	\$82,000
Document Imaging	City-Wide	\$75,000

## REPORTING STRUCTURE AND FUNDING

There are 31 full-time positions that are in the ITS reporting structure.

### **By Fund**

ITS personnel are funded primarily from the General Fund, but some of our employees are funded elsewhere. Below is a breakdown of personnel funding sources.

Fund	Full-Time	Part-Time
General Fund	26	(3.68 FTEs) Help Desk
Utility Fund	3	
4B Fund	1	
Fire Control Fund	1	
Court Technology Fund	0	(0.4 FTEs) Help Desk Intern
<b>TOTAL</b>	<b>31</b>	<b>4.08</b>

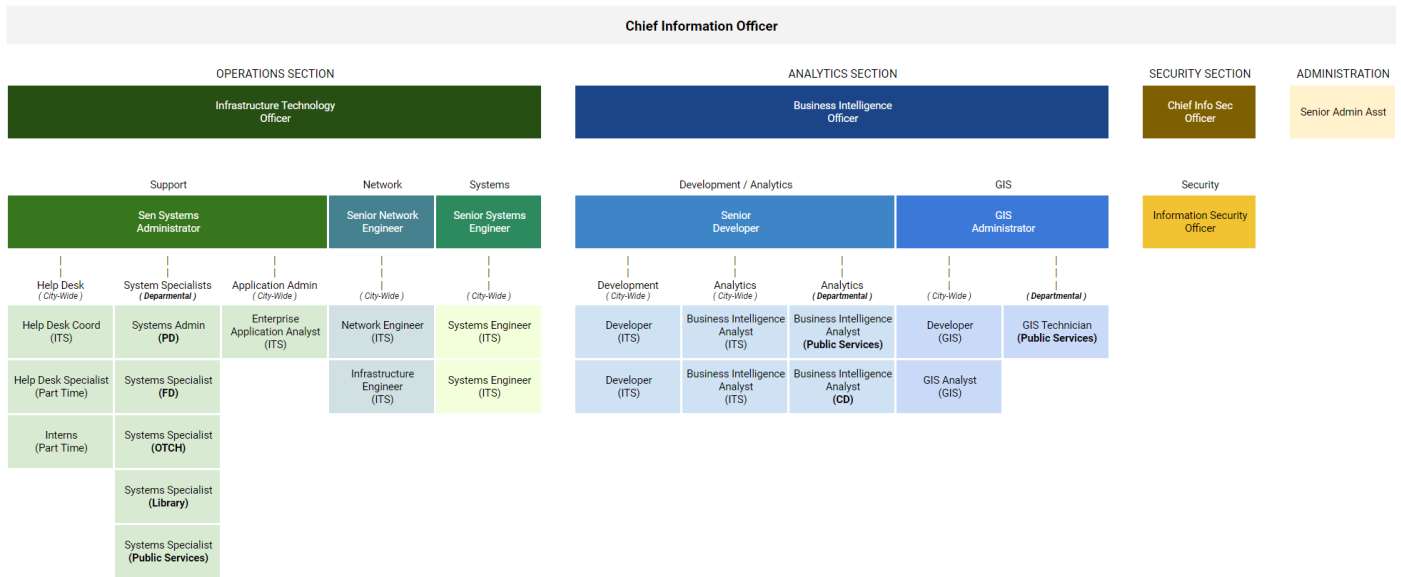
### **Personnel Dedicated to Other Departments**

Twenty-five percent (25.8%) of full-time ITS employees are assigned / dedicated to a single department or building. Systems Support Specialists assist with hardware and software issues, Business Information Analysts perform analysis using SQL and GIS staff assist with mapping.

Area	Full-Time	Part-Time
<b>Public Services</b>	(1) Business Information Analyst (UF)	
	(1) GIS Technician (UF)	

	(1) Systems Support Specialist (UF)	
<b>City Hall</b>	(1) Systems Support Specialist (GF)	(0.4 FTEs) Help Desk Intern (GF)
<b>Police</b>	(1) Systems Administrator (GF)	
<b>Fire</b>	(1) Systems Support Specialist (FC)	
<b>Library</b>	(1) Systems Support Specialist (4B)	
<b>Neighborhood Services</b>	(1) Business Information Analyst (GF)	
<b>Municipal Court</b>		(0.4 FTEs) Help Desk Intern (CT)
<b>TOTAL</b>	<b>8</b>	<b>0.8</b>

# Organization Structure



# MISSION AND GOALS

## City of Lewisville Strategic Moves

These three city-level "Strategic Moves" relate to internal operational issues that in turn play a major role in delivering services and making resources available to Lewisville residents and property owners. The department focuses its mission and goals on helping the city to achieve these strategic moves.

- **Values-Driven Organization**
  - Maintaining and promoting values throughout City operations
- **Data-Driven Organization**
  - Having the right processes, policies, and resources in place to enable the city-wide use of data in decision making.
- **Connected-City**
  - The City provides and facilitates access to people, services, and information. These connections improve the lives of those working, playing, and living in Lewisville.

## Department Mission

To deliver best in class technical leadership, solutions, and support while adhering to security and compliance standards.

## Goals

Our mission is achieved by our staff working together to solve technology challenges via their knowledge in their various disciplines. Our staffing (division) is organized around the following five goals.

- **Support** our users
  - *Lewisville Strategic Move: Data-Driven Organization*
  - Provide city employees with computing resources that best meet their needs
  - Provide timely and helpful technical support to end users
  - Evaluate current and potential technology solutions for their sustainability and fit for purpose
  - Provide timely security updates to city-owned devices
  - Assist with new software implementation efforts
- **Secure** city assets
  - *Lewisville Strategic Move: Connected-City*
  - Monitor, detect and respond to any unauthorized access from external and internal actors

- Classify data to preserve integrity, availability and provide optimal protection to maintain confidentiality
- Determine and maintain compliance with data storage, access and transit regulations regarding certain types of data (HIPAA, PCI, PII, etc)
- Provide training to end users to combat cyber security attacks
- **Connect** the systems
  - *Lewisville Strategic Move: Connected City*
  - Design and implement a modern, high-speed, redundant network that can facilitate city required computer-to-computer communication
  - Manage and support networking infrastructure to ensure seamless, fast and reliable connectivity
  - Managing the server and data-storage infrastructure to maintain high performance
  - Create and maintain access to data for COL as well as residents
- **Analyze** the data
  - *Lewisville Strategic Move: Data-Driven Organization*
  - Program and develop data-processing applications to reduce manual-entry or repetitive tasks by city employees
  - Manage the city's geographic information system to provide interactive maps and data to city employees and the public
  - In collaboration with departments, develop metrics and support utilization/analysis of metrics
- **Evolve** the human capital
  - *Lewisville Strategic Move: Values-Driven Organization*
  - Encourage employees to take advantage of City training opportunities such as leadership development courses
  - Budget and fund training adequately to ensure a highly skilled workforce
  - Maintain and require relevant certifications for skills based pay program
  - Recruit, hire, and retain highly talented technical talent
  - Ensure employees feel valued

## TASKS

Achieving each goal requires the completion of individual tasks. Below is a list of these tasks and the fiscal year they are expected to be completed-by.

- **Citation-writing application**  
Replacement for PD citation-writing application.

<b>Goal:</b>	Support
<b>Funding (existing):</b>	\$75,141 (Funded in FY 23: action step #5248. Crime control fund (Police department))
<b>Funding (needed):</b>	No additional funding required
<b>Completion Target:</b>	September 2023
<b>Metric:</b>	Citation-writing application is in-production by September 2023

- **Finance (AP / Accounting / Purchasing / Utility Billing) application**

Replacement of Finance app for AP, Accounting, Purchasing, Utility Billing

<b>Goal:</b>	Support
<b>Funding (existing):</b>	\$130,354 (New World modules funded in ITS and Finance accounts)
<b>Funding (needed):</b>	Additional \$150,000 on-going. \$500,000 one-time needed (Requested in FY24 action step #5493)
<b>Completion Target:</b>	September 2024
<b>Metric:</b>	Finance application is replaced by September 2024

- **Public Safety CAD/RMS application**

Replacement of public safety CAD/RMS system. Funded FY22

<b>Goal:</b>	Support
<b>Funding (existing):</b>	Funding is management by the Police department
<b>Funding (needed):</b>	Funding is management by the Police department
<b>Completion Target:</b>	November 2023
<b>Metric:</b>	Public Safety CAD/RMS application is in-production by November 2023

- **Fleet-Maintenance application upgrade**

Upgrade fleet maintenance application to web version

<b>Goal:</b>	Support
<b>Funding (existing):</b>	Funding is management by the Public Services department
<b>Funding (needed):</b>	Funding is management by the Public Services department



<b>Completion Target:</b>	June 2023
<b>Metric:</b>	Fleet-Maintenance upgrade is in-production by June 2023

- **Budget-Process application**

Replace existing budget-process software with a new platform.

<b>Goal:</b>	Support
<b>Funding (existing):</b>	\$30,000 (One-Time). \$53,000 (On-Going) (Funded in FY 23 action step #5232)
<b>Funding (needed):</b>	No additional funding needed
<b>Completion Target:</b>	Completed in January 2023
<b>Metric:</b>	Budget-process application is purchased by January 2023.

- **Performance metrics upgrade**

Create an upgraded version of the performance-metrics application

<b>Goal:</b>	Analyze
<b>Funding (existing):</b>	N/A
<b>Funding (needed):</b>	No additional funding needed
<b>Completion Target:</b>	Completed in April 2023
<b>Metric:</b>	Performance metrics upgrade is in-production by April 2023

- **Payroll and Benefits application replacement**

Replace the payroll and benefits-management application

<b>Goal:</b>	Support
<b>Funding (existing):</b>	\$55,460 (budgeted in Human Resources accounts)
<b>Funding (needed):</b>	\$60,000 on-going and \$500,000 one-time (Requested in FY24 action step #5494)
<b>Completion Target:</b>	September 2024
<b>Metric:</b>	Payroll and benefits-administration application is in-production by September 2024

- **Municipal Court application replacement**

Replace the Municipal Court application

<b>Goal:</b>	Support
<b>Funding (existing):</b>	\$18,000 (budgeted in Court Technology Fund)
<b>Funding (needed):</b>	\$100,000 on-going and \$500,000 one-time
<b>Completion Target:</b>	September 2025
<b>Metric:</b>	Municipal Court application is in-production by September 2025.

- **Replace OTCH Tier 1 Data Storage**

Enterprise Data Storage System Replacement

<b>Goal:</b>	Connect
<b>Funding (existing):</b>	\$10,000
<b>Funding (needed):</b>	\$29,940 on-going and \$143,479 one-time (Requested in FY24 action step #5495)
<b>Completion Target:</b>	September 2024
<b>Metric:</b>	Old Town City Hall tier-1 data storage is in-production by September 2024.

- **Multi-Factor Authentication service**

Implement multi-factor authentication for user access

<b>Goal:</b>	Secure
<b>Funding (existing):</b>	\$45,000 (One-Time). \$122,000 (On-Going) (FY 23: action step #5247)
<b>Funding (needed):</b>	No additional funding needed
<b>Completion Target:</b>	July 2023
<b>Metric:</b>	Multi-factor authentication is in-production by July 2023

- **Install WIFI at scheduled public parks**

Establish network-connectivity and public wifi at scheduled public parks

<b>Goal:</b>	Connect
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<b>Funding (existing):</b>	(FY 22: Recovery Act grants)
<b>Funding (needed):</b>	No additional funding needed
<b>Completion Target:</b>	September 2023
<b>Metric:</b>	Public wifi is in-production at scheduled parks by September 2023

- **Traffic-Signal network installation**

Connect all traffic-signals to a new, centralized network

<b>Goal:</b>	Connect
<b>Funding (existing):</b>	
<b>Funding (needed):</b>	No additional funding needed
<b>Completion Target:</b>	Completed January 2023
<b>Metric:</b>	Traffic signals are connected to the new network by January 2023

- **Phone-System Improvements**

Upgrade phone system to modern architecture.

<b>Goal:</b>	Connect
<b>Funding (existing):</b>	\$48,739 is funded in departmental telephone accounts
<b>Funding (needed):</b>	\$40,060 on-going (Requested in FY24 action step #5497)
<b>Completion Target:</b>	July 2023
<b>Metric:</b>	Phone system is upgraded to modern architecture by July 2023

- **Fund \$1.500 for training per employee**

Employees to receive equivalent of 2 certifications training per FY

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	\$23,500 currently budgeted in ITS budget
<b>Funding (needed):</b>	\$92,000
<b>Completion Target:</b>	October 2027

<b>Metric:</b>	Training funding is available at \$1,500 per employee by October 2027.
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- **Senior Administrative Assistant position**  
Heavy purchasing-process load requires FT position

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	\$16,640 budgeted in ITS part-time accounts
<b>Funding (needed):</b>	\$49,059 on-going
<b>Completion Target:</b>	Completed October 2022
<b>Metric:</b>	Senior Administrative Assistant is hired by October 2023

- **Network Engineer (Traffic Network) position**  
Maintenance of the traffic network requires dedicated position

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	No funding exists
<b>Funding (needed):</b>	\$100,048 on-going
<b>Completion Target:</b>	December 2025
<b>Metric:</b>	Network Engineer (Traffic Network) is hired by December 2025.

- **Business Information Analyst (ITS) position**  
Increasing work-load will require the hiring of an additional Business Information Analyst in ITS

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	No funding exists
<b>Funding (needed):</b>	\$100,048 on-going
<b>Completion Target:</b>	December 2025
<b>Metric:</b>	Business Information Analyst (ITS) is hired by December 2025.

- **InfrastructureTechnology Officer position / Title Change**

Reclass the "Operations Manager" position to an "Infrastructure Technology Officer" position.

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	No funding required
<b>Funding (needed):</b>	No funding required
<b>Completion Target:</b>	October 2023
<b>Metric:</b>	Operations Manager position is reclassified to "Infrastructure Technology Officer" by October 2023.

- **Business Intelligence Technology Officer / Title Change**

Reclass the "Business Process Manager" position to an "Business Intelligence Officer" position.

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	No funding required
<b>Funding (needed):</b>	No funding required
<b>Completion Target:</b>	Completed April 2023
<b>Metric:</b>	Business Process Manager position is reclassified to "Business Intelligence Officer" by October 2023.

- **Support Manager position /Reclass**

Reclass the Senior Systems Administrator position to a "Support Manager" position to manage the Departmental Support and Help Desk divisions.

<b>Goal:</b>	Evolve
<b>Funding (existing):</b>	Funding exists in current ITS budget
<b>Funding (needed):</b>	Unknown
<b>Completion Target:</b>	October 2023
<b>Metric:</b>	Senior Systems Administrator position is reclassified to Support Manager by October 2023.

# SWOT ANALYSIS

Each year the department completes a SWOT analysis for the development of the operating budget. The most recent analysis was completed in 2021. The SWOT analysis helps guide the department's requests for resources in the upcoming budget year. Prefacing each SWOT is the departmental goal to which it relates.

## Strengths

- *Support*
  - Intern program provides a pool of trained candidates for internally available positions
  - Part-time intern staffing for help desk
  - Excellent employee satisfaction survey results
  - Skill / certification based pay
  - Use of technology to apply security updates to devices in a timely manner
- *Secure*
  - Use of security audits allows identification of potential areas of concern before they are exploited
  - City cyber security training to meet state regulations
- *Connect*
  - Wireless-internet access point infrastructure capable of being upgraded as technology or needs change
  - Virtualization technology infrastructure allows increasing numbers of servers to be maintained without increasing staffing
  - Wifi (Public and Internal) (all major campuses)
  - Multiple data centers with redundancy
- *Analyze*
  - In-house API system provides a centralized data-access system
  - Use of hosted, auto-updated aerial maps provides users with timely images of Lewisville
  - Ability to convert cumbersome processes to more efficient ones
  - Support provided for numerous services and platforms with minimal staffing
- *Evolve*
  - Skill based pay program assist with employee growth and salary
  - Ensuring production technology solutions are supported by maintenance contracts allows for quicker resolution of issues and overall morale satisfaction.
  - Diversity of staff brings a wide variety of ideas and perspectives.

## Weaknesses

- *Support*
  - Payroll software is not meeting current needs



- Utility Billing application-vendor purchased by larger company - unknown future support
- Lack of adequate departmental space
- *Secure*
  - Lack of enterprise multi-factor authentication services.
- *Connect*
  - Aging telephone system with fewer support options
  - Lack of public wireless internet access in parks
  - Aging environmental control in data centers
  - Limited staffing for traffic network maintenance
- *Analyze*
  - Reduction-in-force during 2020 pandemic has left no analytics-personnel to support the police department
  
- *Evolve*
  - Employee space requirements exceed available options

## Opportunities

- *Support*
  - Begin using service-level-agreements (SLAs) timeframe expectations for individual issue types and applications
  - Decrease work order resolution time and backlog (to increase city employee productivity)
  - Additional cross-functional training of ITS staff
  - Cross departmental staff meetings to surface issues
- *Secure*
  - Uncategorized data across city systems is difficult to protect. New software was purchased to address this and is being implemented
  - Utilize more automated security auditing tools to detect issues before they can be exploited
- *Connect*
  - Installation of fiber optic conduit during future road construction which reduces the cost of installing fiber there in the future
  - Traffic network project expands infrastructure-connections for other uses
  - Continued migration to cloud technology
  - Full and immediate failover capability for all applications at all campuses without staff interruption
  - Logical and geographical mapping of city network
  - Local back ups of all cloud data
- *Analyze*
  - Utilization of machine learning techniques to automate data analysis for departments
  - 3D modeling of all city facilities
  - Augmented reality for viewing infrastructure

- Management of building metadata (year built, construction material, codes, stories, etc)
- Centralized, city-wide address management
- *Evolve*
  - Create a unique office floor plan that is well suited for departmental space during Annex remodel.
  - Increase employee training opportunities.

## Threats

- *Support*
  - Increasing work order resolution time and backlog (which impacts city employee productivity)
  - Increasing number of employees and devices without associated increase in support staff could increase work order resolution times
  - Keeping up with constantly-changing technology best practices
  - Loss of personnel with unique knowledge of systems or subsystems
- *Secure*
  - Number of attack vectors in hardware and software is continually increasing making it more and more difficult to defend critical systems and data
- *Connect*
  - Limited number of specialized networking staff increases the risk of unexpected turnover causing systems to be unmanageable
  - Increasing number of system installations makes it difficult to monitor each one for issues
  - Public WiFi bandwidth capacity (increase in simultaneous users and data consumption)
  - Virtual-host server overload based on increasing computation demand
- *Analyze*
  - Foundation systems are difficult to maintain with increasing number of new projects
  - Increasing desire for custom-built, front-line applications and the ability to maintain and modify these
  - Maintenance, verification and update of master layer metadata (streets, water, sewer, etc)
- *Evolve*
  - Competing with the private sector for highly sought after technical talent
  - Providing adequate time and funding to ensure employees' continued education keeps pace with technology solutions
  - Increased expectations of allowing telecommuting for positions that do not directly interact with customers

# FIVE-YEAR FORECAST

The following costs are for anticipated capital expenditures over the next five years. The department maintains this information in our annual technology plan that is submitted with the annual budget. The items below show total costs (capital and recurring expenses) in the first year they would occur.

	FY23	FY24	FY25	FY26	FY27
<b>Recurring Hardware Replacements:</b>					
Switches	\$108,000	\$108,000	\$108,000	\$108,000	\$108,000
Servers	\$200,000	-	-	-	-
Cameras	\$50,000	-	\$50,000	\$50,000	\$50,000
PCs	\$250,000	\$377,481	\$250,000	\$250,000	\$250,000
Printers	\$11,500	\$11,500	\$11,500	\$11,500	\$11,500
Phones	\$14,000	-	\$14,000	\$14,000	\$14,000
Disk Storage	-	\$173,419	-	-	-
<b>Enterprise Application Replacements:</b>					
Court application	-	-	\$600,000	-	-
Finance (AP/Acct/Purchasing/UB) app	-	\$650,000	-	-	-
Citation-writing application	\$170,000	-	-	-	-
CAD/RMS application	\$1,100,000	-	-	-	-
Payroll application	-	\$560,000	-	-	-
Fleet application	\$40,000	-	-	-	-
Budget creation application	\$80,000	-	-	-	-
<b>ITS System Management Applications:</b>	-	-	-	-	-
Multi-Factor Authentication Service	\$60,000	-	-	-	-
Training	-	\$23,000	\$23,000	\$23,000	\$23,000

# Performance Metrics

The following are the metrics that will help us know if we are achieving our goals and tasks.

Goal	Metric	Target
Support		
	Customer satisfaction rate with help desk services	>95%
	Percent of new, desktop-equipment deployed within 2 weeks of receipt	>75%
	Unscheduled ERP-application outages **	< 2
Secure		
	Pass-rate of end-user security training	>99%
	Percent enrollment in multi-factor authentication (email) (5-year)	100%
	Percent enrollment in multi-factor authentication (network access) (5-year)	100%
Connect		
	Percent internet uptime	>99%
	Percent of connectivity-uptime for traffic-network devices	>95%
	Number of city parks receiving internet connectivity	>2
Analyze		
	Customer satisfaction rate with GIS services	>95%
	Customer satisfaction rate with Dev/Analytics services	>95%
	Percent of web-service uptime	>99%
Evolve		
	Employee retention rate	>93%
	Percentage of employee who receive 1 or more training courses	>80%
	Satisfaction rate of ITS employees	>90%

\* Metrics are considered to be measured on a fiscal year basis, unless otherwise indicated

\*\* ERP (enterprise resource planning) applications are major departmental systems including: Financial, Human Resources, Payroll, and Computer-Aided Dispatch (CAD)

# TECHNOLOGY TREND FORECAST

The following are anticipated trends of the respective areas over the next five years.

- *GIS*
  - We are continually increasing our use of subscription-based, spatial analytics via 3rd-party services. This includes geocoding, demographic / geographic analysis and routing analysis.
  
- *Development*
  - Application-development is decreasing as new data-collection systems are needed less often and as we are able to employ 3rd-party systems more and more (ie, Google Sheets/Forms, Laserfiche Forms, Psofia Forms, etc).
  
  - Development-time dedicated to warehousing data from cloud services is increasing as more city applications move to being cloud-based.
  
- *Analytics*
  - The need for real-time analytics continues to increase across departments.
  
- *Support*
  - The need to support remote work environments will continue to increase.
  
  - Video conferencing and calling will be available to all users anywhere allowing for higher engagement for a hybrid workforce.
  
  - Conference rooms and offices will need to support hybrid work and multiple collaboration platforms.
  
- *Systems*
  - Higher demand for resources and resilience. The more data warehousing and analytics we provide continues to increase the resources used on-prem at a very high rate.
  
  - Cloud hosting of applications continues to increase.
  
- *Networking*

- Field work is increasing and expected to continue to increase. The traffic network is bringing on a large increase of network points that are not in traditional buildings.
- Network automation and proactive monitoring will be of increased importance as well double the amount of switches supported by this team.
- Many traditional capital cost products (IE: Switches, wireless) are moving towards primarily subscription models.
- *Security*
  - Phishing emails and other social engineering attacks are continuing as a major threat vector for cyber criminals to attack organizations
  - Network automation and proactive monitoring will be of increased importance as well double the amount of switches supported by this team.
  - Ransomware and malware will continue to escalate as organizations defenses increase. We have seen cyber criminals escalate using tactics such as releasing sensitive data if no payment received or proof that a breach occurred.