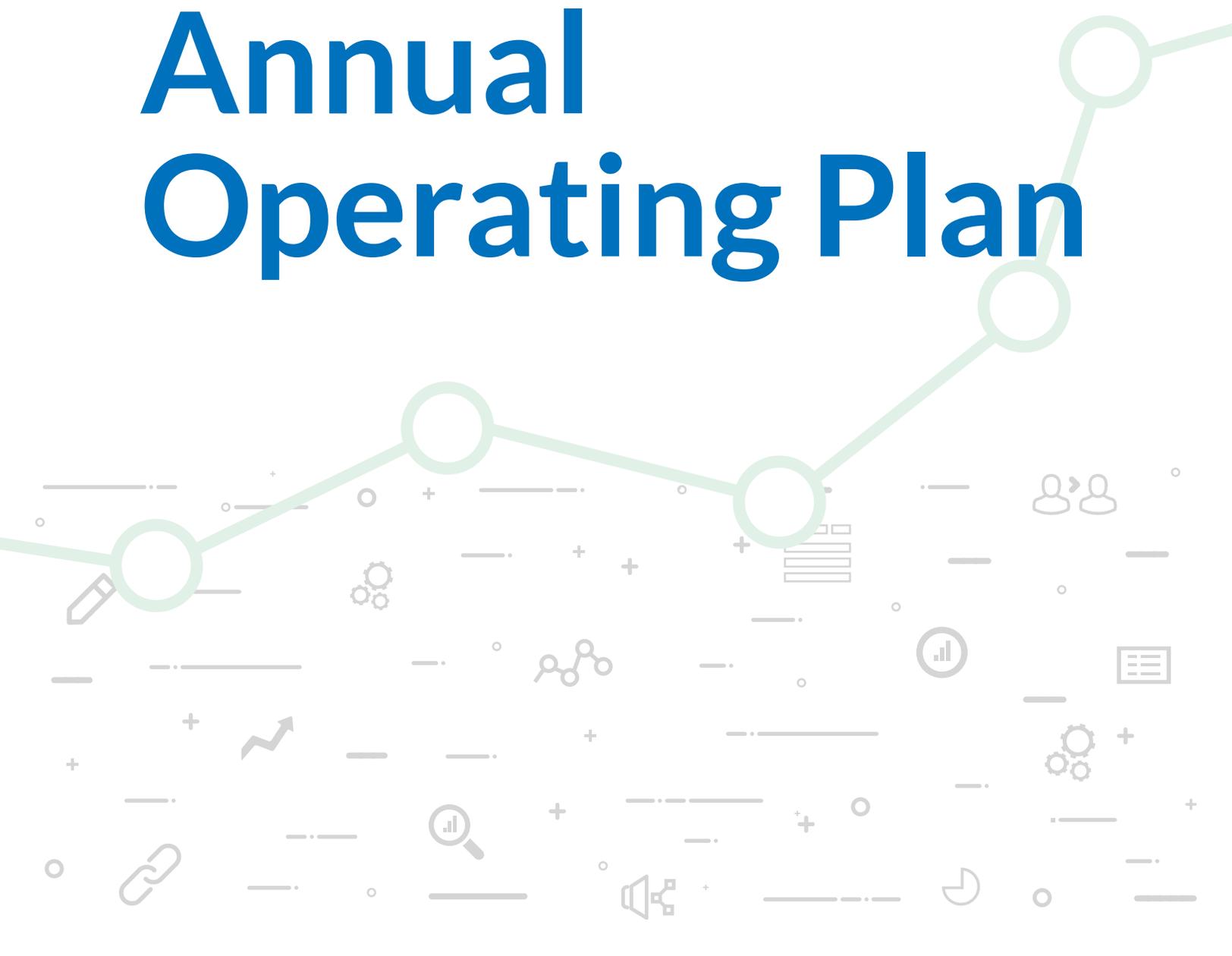




**CHARLOTTE**

INNOVATION & TECHNOLOGY

# FY2019 Annual Operating Plan



**“A bad system  
will beat a  
good person  
every time.”**

**W. Edwards Deming**



# Letter from the CIO

Dear I&T Employees,

As evidenced in the City's Adopted Budget for FY2019, our organization as a whole is moving away from the Run the Business service delivery model to support a more integrated Team Charlotte Approach. Along those lines, in an effort to position ourselves to be more collaborative and responsive, many City services are being restructured to improve operations and increase efficiency of service delivery. Innovation & Technology is committed to these efforts and specifically on the priorities set for in the FY2019 Annual Operating Plan; building a performance-focused I&T culture, driving innovation, especially in the use of data driven analytics, and funding IT demand and depreciation growth.

Maintaining essential IT infrastructure, securing and protecting citywide data and technology from evolving threats, and an emphasis on project management and decision analytics are also important components in of this plan. Funding for the budget (\$29.1M) includes 145 full-time equivalent positions, an increase of 1 FTE from the previous budget year.

I&T's operational goals and challenges, include determining how success and performance are measured and finding ways to address unmet funding needs and associated risks. The context for I&T's operational success is predicated on providing an outstanding partner experience. This means helping our business partners spend less effort and get better results by listening and promptly responding to concerns, communicating well, and by being engaging and easy to work with.

In order to effectively manage, prioritize, and plan the lifecycle of technology investments, and to insure alignment with departmental dependencies, the CIP planning process included working with all departments to update the City's 5-Year Technology Master Plan. The Technology Master Plan provides a roadmap to identify over 569 initiatives totaling over \$577M of which \$258M is currently unfunded. In addition, I&T Leadership completed a strategic review and prioritization of all CIP technology projects for FY2019. All available CIP sources related to technology were combined to fund priorities in keeping with the overall context of competing priorities across the City. For the FY2020 budget cycle, I&T will continue to refine this process with the formal implementation of a City-wide Technology CIP Portfolio planning process including business value-based criteria.

As the I&T organization continues to drive culture change, "smart cities" activities will primarily focus on the acquisition and analysis of data relative to our operational objectives. This data must be used more intensively to make better strategic decisions and to automate routine, tactical decisions and operations. It is in the systemic use of data for our everyday decision-making where the city has the most near-term opportunity to approach the ideal of a "smart city".

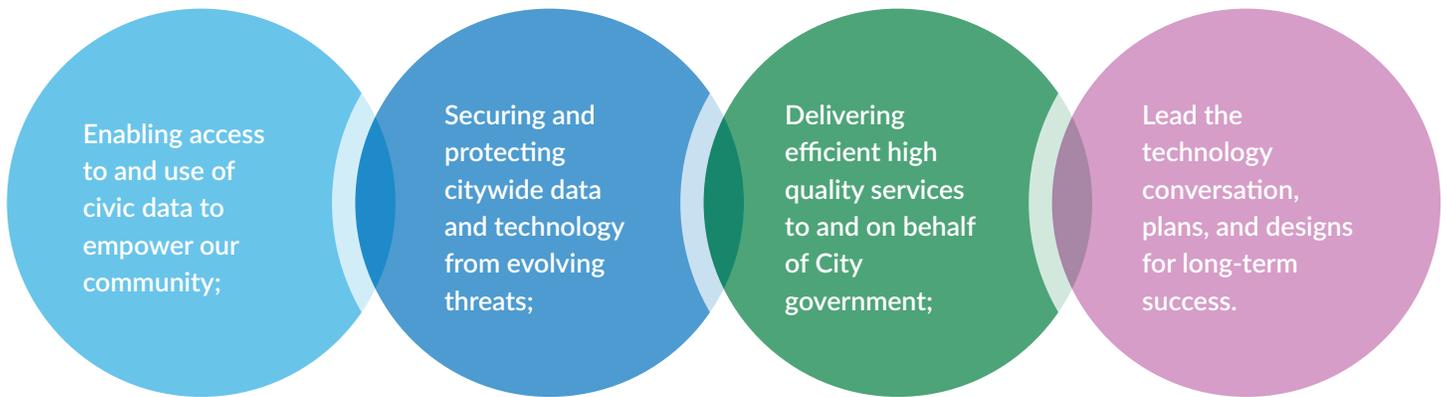
The FY2019 Annual Operating Plan is reflective of I&T's on-going dedication to innovate, secure and deliver technologies that empower our citizens, departments, and agencies while continuing to position Charlotte as a World-Class Digital City.

Jeffrey Stovall  
Chief Information Officer



# Executive Summary

The City of Charlotte Innovation and Technology Department (I&T) has four key responsibilities:



## Innovation and Technology celebrated its 4th anniversary in January 2018.

During our four years as a Department, significant effort at all levels, has gone into developing a high performance teamwork culture with an emphasis on self-leadership and accountability. With a staff of 145 full-time positions, I&T has functional responsibility for technical service areas managing highrisk infrastructure initiatives including: information security, data center operation, operating systems, citywide data protection and management, financial management systems and procurement platforms, human resource management systems, and public safety communications.

Strengthening relationships at all levels - within I&T and with departments and agencies - to optimize collaboration and stimulate innovation is central to our operating culture and provides the foundation for delivering a great customer experience.

In keeping with City Budget Principles, which include a structurally balanced budget, approving program funding in the context of overall competing priorities across City services, and the continual evaluation of the most cost-effective means for providing City Services, I&T will continue to work toward a model that is standardized, less redundant and more efficient.

## MISSION

“To Innovate, Secure and Deliver Technologies that Empower Charlotte”.

## VISION

“The City of Charlotte is internationally-recognized as a “World Class” Digital City”



# Priorities

Drive innovation through the use of data and analytics and develop long-term sustainable funding that meets ever increasing demand while simultaneously maintaining and preserving the current infrastructure

Supporting location-based analytics ; as the departments leverage business intelligence, GIS data, and tools to optimize outcomes.

Strengthening relationships at all levels - within I&T and with departments and agencies - to optimize collaboration and stimulate innovation is central to our operating culture and provides the foundation for delivering a Great Customer Experience.

Addressing the need for resources in the extremely competitive Charlotte region IT labor market. Finding and sustaining staff resources to support the demand for technology services and internal I&T operations remains a top challenge.

Participate in high visibility initiatives continue to emerge enhancing digital communications and positioning Charlotte as a Smart City;

Refine strategy to address technological advancements for cloud-based computing, data & analytics, mobile computing, and social media;

# Functional Accountability & Alignment



## BLUEPRINT FOR SUCCESS

The I&T Leadership Team established a 5-year strategic and cultural “blueprint” in 2017 which serves as the framework for how the organization functions. The “blueprint” establishes the foundational pillars for I&T leadership within the City and provides the context for how we will succeed. Our seven (7) strategic pillars are:

- Providing an outstanding customer experience
- Delivering innovative solutions
- Ensuring accessible data and analytics
- Securing and protecting citywide data
- Executing with operational excellence
- Leading enterprise-wide technology planning and design
- Demonstrating a high-performing culture with effective business practices

# Strategic Blueprint

## PURPOSE

The reason we exist as a team...

## STRATEGIC VISION

The future we are creating together...

## STRATEGIC PILLARS

The things we are focused on to achieve our strategic vision...

## VISION

Our vision is that by the year 2021...

## TEAM CHARACTER

The values and behaviors that make our team great...

**INNOVATE,  
DELIVER AND SECURE**  
Technologies that Empower Charlotte

Charlotte is a "World-Class" Digital City – We Are An Essential Part

Outstanding Partner Experience	Delivery of Innovative solutions	Accessible Data & Analytics	Securing Our City	Operational Excellence	Enterprise Planning & Design	Exceptional Employee Experience
Recognized as the first-choice and sought after technology collaborator	Innovate in ways which promote partner and community success	Amplify the City's service to the community using data	Ensure our digital city is secure and protected	Operations are trusted to deliver efficient, high-quality services	Leads the technology conversation and plans and designs for longterm success	I&T has a high performance team culture and effective business practices

<b>TEAMWORK</b> We work together to achieve our goals and have fun while doing it	<b>PASSION</b> We care about and believe in what we do	<b>INTEGRITY</b> We trust each other and do the right thing for Charlotte	<b>COMPETENCE</b> We are experts in our field
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## CITY CORE VALUES

<b>Collaborative:</b> We seek ways to work together within the city, community and beyond.	<b>Inclusive:</b> We value all people and respect their ideas, backgrounds and experiences.	<b>Accountable:</b> We own our work through timeliness, initiative, fairness and excellence.	<b>Creative:</b> We think beyond boundaries, embrace curiosity and are willing to take risks.	<b>Trustworthy:</b> We tell the truth, behave ethically, and work openly with each other and the community.
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# Innovation and Technology Blueprint Pillars

## Outstanding Partner Experience

STRATEGIC INITIATIVE	MEASURES	TARGET
<ul style="list-style-type: none"> <li>Better defined I&amp;T service offerings and associated costs</li> </ul>	<ul style="list-style-type: none"> <li>Start service catalog for all operations teams; publish &amp; operate for the Technology Services team within SOP year</li> </ul>	<ul style="list-style-type: none"> <li>Implement and Publish 3 customer facing service area catalogs by end of Q4 including what services we provide, the cost, and the expected time to complete</li> </ul>
<ul style="list-style-type: none"> <li>Provide Clarity and Alignment around partner service needs</li> </ul>	<ul style="list-style-type: none"> <li>Document I&amp;T service offerings for Aviation, Fire, CATS, HR, and CLTWater and set SLEs within each Departmental MOU. Complete all 6 by target date.</li> </ul>	<ul style="list-style-type: none"> <li>End of Q4</li> </ul>
<ul style="list-style-type: none"> <li>Improve IT Relationship Satisfaction</li> </ul>	<ul style="list-style-type: none"> <li>Improve stakeholder survey results using the Customer Service Action Plan</li> </ul>	<ul style="list-style-type: none"> <li>Needs, Execution and Communication scores &gt;70%</li> </ul>

## Delivery of Innovative Solutions

STRATEGIC INITIATIVE	MEASURES	TARGET
<ul style="list-style-type: none"> <li>Create, approve and publish a City-wide Technical Project Policy</li> </ul>	<ul style="list-style-type: none"> <li>Obtain City Manager approval of Technology Project Policy by target date</li> </ul>	<ul style="list-style-type: none"> <li>End of Q1</li> </ul>
<ul style="list-style-type: none"> <li>Lead the implementation of Open Source solutions</li> </ul>	<ul style="list-style-type: none"> <li>Implement the process to move toward open source tools</li> </ul>	<ul style="list-style-type: none"> <li>End of Q2</li> </ul>
<ul style="list-style-type: none"> <li>Expand opportunities for innovative partnerships</li> </ul>	<ul style="list-style-type: none"> <li>Complete pilot program with UNCC</li> </ul>	<ul style="list-style-type: none"> <li>End of Q1</li> </ul>

## Accessible Data & Analytics

STRATEGIC INITIATIVE	MEASURES	TARGET
<ul style="list-style-type: none"> <li>Complete Enterprise Data Architecture Roadmap and draft associated strategy</li> </ul>	<ul style="list-style-type: none"> <li>Deliver a framework for the Enterprise Data Architecture by September 2018 and Complete the Roadmap by June 2019</li> </ul>	<ul style="list-style-type: none"> <li>End of Q1 and Q4</li> </ul>
<ul style="list-style-type: none"> <li>Complete data quality control and quality assurance plan</li> </ul>	<ul style="list-style-type: none"> <li>Improve overall scores for data quality on stakeholder survey</li> </ul>	<ul style="list-style-type: none"> <li>Improve score for Fire and Budget</li> </ul>

## Operational Excellence

STRATEGIC INITIATIVE	MEASURES	TARGET
<ul style="list-style-type: none"> <li>Assess Disaster Recovery/Business Continuity</li> </ul>	<ul style="list-style-type: none"> <li>Select a vendor and begin the study</li> </ul>	<ul style="list-style-type: none"> <li>End of Q2</li> </ul>



# Innovation and Technology Blueprint Pillars

## Securing Our City

STRATEGIC INITIATIVE	MEASURES	TARGET
• Modernize firewall infrastructure	• Firewall Consolidation/Virtualization	• End of Q4
• Improve the airport cyber security posture	• Bring terminal network up to Enterprise security standards. Deploy Sentinel One, monitor all network traffic, manage all firewalls	• End of Q4
• Increase our ability to analyze security data	• Deploy the elastic stack	• End of Q2

## Enterprise Planning & Design

STRATEGIC INITIATIVE	MEASURES	TARGET
• Develop a mature investment portfolio management process utilizing a business value-based prioritization	• Business-value-based criteria added to prioritization criteria/process by target date	• End of Q2
• Justify and promote cloud infrastructure expansion	• Publish a formal cloud infrastructure adoption proposal	• End of Q3

## Exceptional Employee Experience

STRATEGIC INITIATIVE	MEASURES	TARGET
• Continue I&T Culture Transformation	• Communicate and implement of the FY2019 Roadmap	• Roll out at least 80% of the items on the Roadmap by end of Q4.
• Transition to more of a Bill of IT cost recovery model	• Implement new ITFM tool	• End of Q3

# Summary of Technology Master Plan Funding

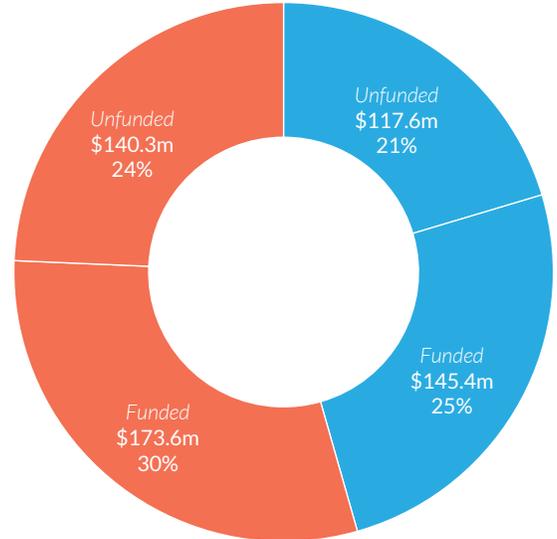
## Total Planned Spend Over 5 Years

Up Front vs. Ongoing Costs | Funded vs. Unfunded

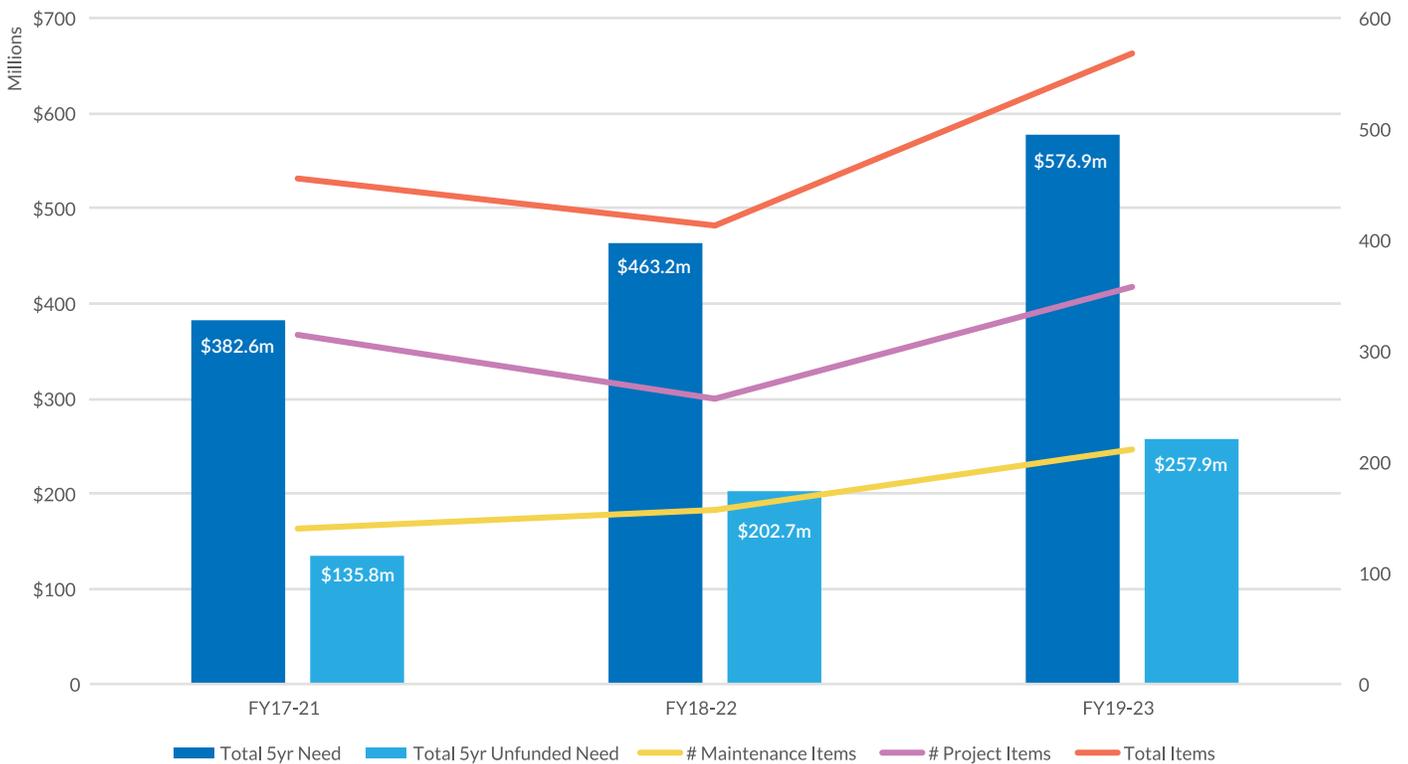
The total amount of planned spend that is reported as unfunded (bottom left) continues to be just slightly less than 50% of the overall total.

Total = \$577m over 5 years

- Capital Expenditure (CapEx)
- Operational Expenditure (OpEx)



## The Risk Perspective



# FY 2019 Operating Budget Summary

	FY2016 Actual/Positions	FY2017 Actual/ Positions	FY2018 Revised/ Positions	FY2019 Budget/ Positions
<b>Administration</b>	<b>2,388,355</b>	<b>2,520,039</b>	<b>2,724,057</b>	<b>2,822,738</b>
Leads initiatives for Relationship Management, Process Improvement, Governance, Enterprise Architecture and Financial Management services	17.00	17.00	18.00	18.00
<b>Enterprise Project Management</b>	<b>769,023</b>	<b>1,122,734</b>	<b>1,686,650</b>	<b>1,504,819</b>
Provides project management and resource management for all City projects that have an IT component	4.00	4.00	7.00	7.00
<b>Information Security</b>	<b>1,670,632</b>	<b>2,529,715</b>	<b>2,805,143</b>	<b>3,149,550</b>
Administers the Corporate Security Program and complete management and oversight for IT security operations	4.00	6.00	7.00	8.00
<b>Enterprise Applications</b>	<b>6,666,414</b>	<b>7,793,516</b>	<b>8,530,648</b>	<b>9,231,398</b>
Builds, maintains, and operates the City's financial management, budgetary, and procurement platforms necessary for the City to conduct daily business	44.00	46.00	45.00	45.00
<b>Operations and Service Management</b>	<b>7,451,750</b>	<b>7,212,752</b>	<b>7,215,378</b>	<b>6,693,995</b>
Administers and maintains IT service management system which includes ordering, storage, configuration and delivery of customer end user computing assets	22.00	22.00	22.00	22.00
<b>Network and Telecommunication Operations</b>	<b>3,925,401</b>	<b>5,478,763</b>	<b>4,587,421</b>	<b>5,351,458</b>
Provides City-wide support of Enterprise data networks used for computers, voice, video, and infrastructure support devices	7.00	7.00	9.00	9.00
<b>Facilities and Data Services</b>	<b>1,990,783</b>	<b>2,857,588</b>	<b>2,874,107</b>	<b>2,439,183</b>
Provides hardware installation and management of Windows and Unix Servers, Storage Area Networks (SAN) and locally attached storage arrays	12.00	12.00	12.00	12.00
<b>Public Safety Communications</b>	<b>6,260,019</b>	<b>5,114,299</b>	<b>5,271,714</b>	<b>5,570,955</b>
Maintains the radio and data infrastructure for all public safety and public works agencies throughout the City, Mecklenburg County, and several surrounding counties and municipalities	20.00	24.00	24.00	24.00
<b>Departmental Charges</b>	<b>(5,020,193)</b>	<b>(7,562,184)</b>	<b>(7,229,361)</b>	<b>(7,625,499)</b>
<b>Total Budget</b>	<b>26,102,184</b>	<b>27,067,222</b>	<b>28,465,757</b>	<b>29,137,597</b>
<b>Total FTEs</b>	<b>130.00</b>	<b>138.00</b>	<b>144.00</b>	<b>145</b>



# FY 2019 CIP

## Use of Funds

Create Disaster Recovery Plan	980,000
Firewall Consolidation - Refresh	1,270,000
Firewall Consolidation - Virtualization Phase 1 of 2	330,000
On-Base Deployment for HR	367,400
Technology Study	400,000
PC Refresh Projection	1,015,400
Server Refresh Projection	500,000
Network Refresh Projection	1,000,000
ERP - KTLO MUNIS Upgrade	1,125,000
ERP - Enhance (Finish B2G Enterprise & Emp Exp Reimb. Projects)	120,000
Peoplesoft Upgrade Project 9.2.17	393,398
Verint Upgrade	124,000
Professional Services / Project Administration (PMs)	113,689
<b>Total FY 2019 CIP Project Funding</b>	<b>7,738,887</b>

# FY2018 Accomplishments



