Chapter 3
Strategic Direction

This chapter charts a strategic direction for information technology at the City. It outlines a core set of IT goals and attendant strategies to guide the deployment of technology – aligned with the City of Annapolis' strategic priorities.

IT Vision and Goals

The City recognizes that, properly used, IT represents a foundational element of city service delivery, driving the quality, efficiency, and effectiveness of city operations. As such, PTI worked with the project's steering committee to develop the following vision for citywide IT:

City of Annapolis IT Vision

Annapolis leverages IT to enhance quality, increase availability, improve reliability, and lower cost of city services

This plan outlines a set of IT goals and strategic to optimize the use of technology in delivering City services.

In support of this vision – and driven by Annapolis' strategic priorities – PTI and the City's project steering committee developed the following six IT goals:

City of Annapolis IT Goals

1	Informed IT Decisions	Technology investments align with city strategic priorities.
2	Accessibility and Accountability	Technology improves access to city information and services and promotes responsible municipal government.
3	Streamlined City Services	Information systems streamline city operations and improve service.
4	Reliable Technical Infrastructure	Technical infrastructure is secure, reliable, and cost effective.
5	Responsive IT Support	IT services are customer-oriented and responsive.
6	IT Enabled Workforce	City workforce is computer-literate and technology-enabled.

These goals support Annapolis' strategic priorities. In turn, one or more IT strategies support each IT goal. The remainder of this chapter details the five IT goals and associated IT strategies.

Goal 1: Informed IT Decisions

Technology investments align with city strategic priorities.

IT decision-making structures and processes are fundamental to effective IT services because they direct how Annapolis plans for, allocates, and manages its IT resources. Effective IT governance will ensure that the City has the right technology, in the right place, and at the right cost – in support of Annapolis' strategic priorities. The following initiatives support this goal:

♦ Establish a citywide IT governance structure

♦ Improve the City's IT funding approach and associated mechanisms

♦ Enhance IT strategic planning efforts

♦ Continue pursuing regional IT partnerships

Establish a citywide IT governance structure

To help the City make the best use of its IT resources, Annapolis should adopt a structured, citywide process (detailed on the following pages) for making and communicating major IT investment decisions. This includes clearly defining stakeholder roles and responsibilities, decision making policies and procedures, and prioritization criteria. The City must also establish tools (e.g., concept paper, business case, balanced scorecards[24]) to support the analysis and prioritization of potential IT investments and ensure decisions are fully supported by an appropriate business impact assessment and financial analysis.

Associated Benefits
♦ **Facilitates the adoption of an organization-wide view of technology**
♦ **Aligns IT investments with Annapolis' core business priorities**
♦ **Improves the allocation of limited IT resources**
♦ **Enhances communication with key stakeholders**
♦ **Creates agreed-upon IT policies and procedures**
♦ **Supports shared IT investments**

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[24]A performance management tool that balances both financial and non-financial measures, as well as short-term and long-term performance, in support of an organization's strategic priorities.

The exhibit below depicts a process for effectively prioritizing major IT investments.

City of Annapolis
Recommended IT Decision Making Model
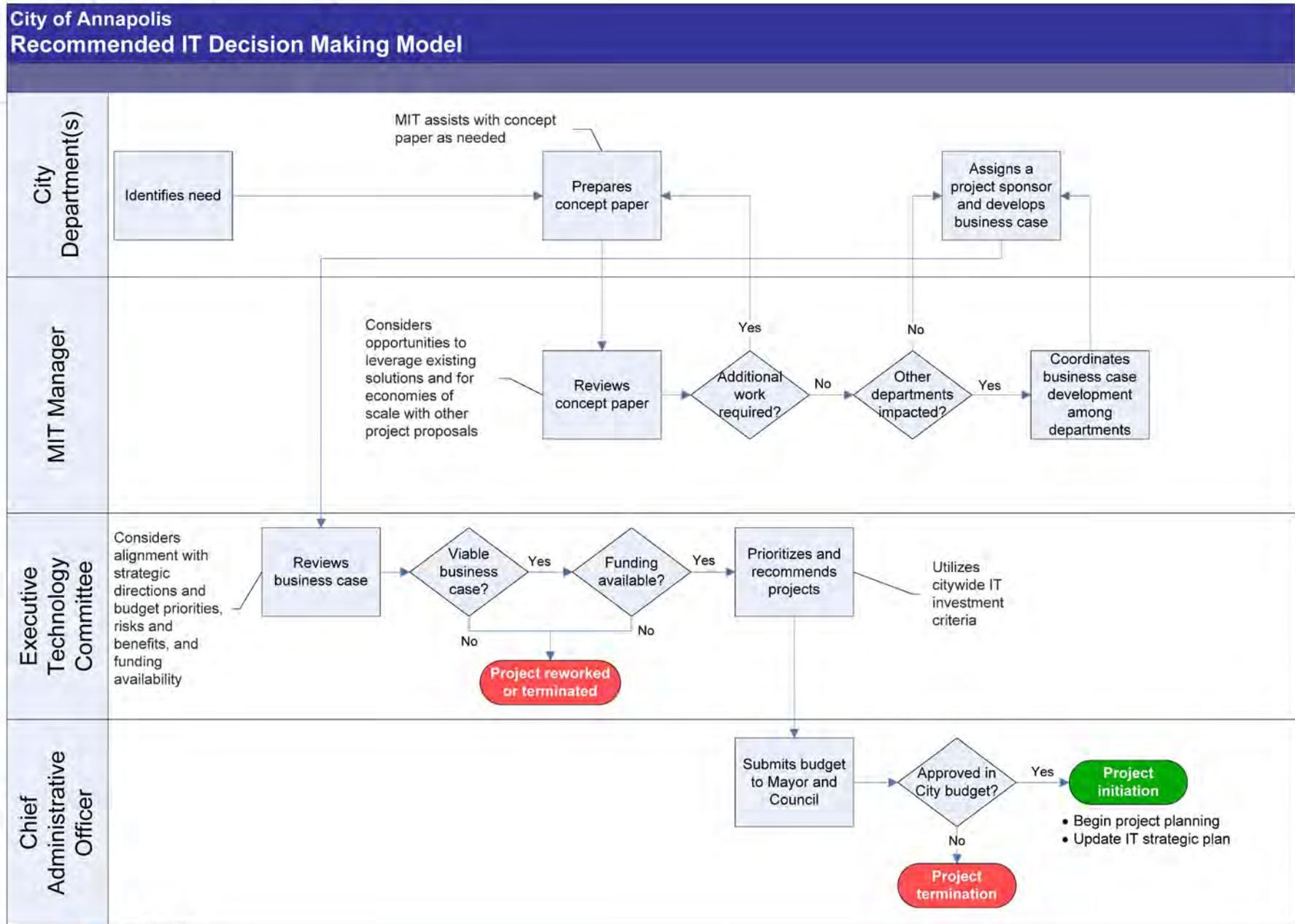
The bullet points below outline recommended roles and responsibilities associated with the citywide IT decision making model shown on the previous page.

IT Decision Making – Roles and Responsibilities

Chief Administrative Officer

♦ Submits prioritized project list to Council

♦ Terminates unfunded IT projects

♦ Approves updates to the IT strategic plan in partnership with the MIT Manager

MIT Manager

♦ Develops citywide IT policies, standards and exceptions

♦ Maintains the IT Strategic Plan

♦ Reviews business unit IT project proposals

♦ Assesses resource impacts

♦ Coordinates joint business unit business case development

Executive Technology Committee

♦ Takes an enterprise view on improving business processes via technology

♦ Identifies funding sources

♦ Assesses multi-department impacts

♦ Serves as a clearinghouse for major information technology-related projects

♦ Prioritizes major information technology projects

♦ Monitors post-project performance

City Department(s)

♦ Identifies customer needs/wants

♦ Develops initial project proposal

♦ Develops business case

♦ Sponsors projects

PTI recommends that Annapolis implement two key tools – concept paper and business case – as part of the IT decision making process. A concept paper is a less formal document (e.g., one to three pages) which allows decision makers to explore ideas without placing too much of a burden on staff. A business case is a more formal document that requires thorough financial and business analysis. The graphic on the following page presents the key elements of each of these tools.

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Concept Paper

♦ **Less formal (e.g., one to three pages)**

♦ **Allows decision makers to explore ideas without placing too much of a burden on staff**

♦ **Includes:**
- Brief statement of problem
- Brief description of proposed solution or investment
- High-level cost estimate
- Identification of impacted stakeholders and business processes
- Labor requirements
- Benefits
- Alignment with strategic priorities

Business Case

♦ **More formal**

♦ **Requires thorough financial analysis**

♦ **Includes:**
- Brief investment description
- Business assessment:
  - ✓ Description of existing situation and problem
  - ✓ Description of proposed changes
  - ✓ Other alternatives considered
  - ✓ Description of proposed technology
  - ✓ Impacts on other business units
  - ✓ Measurements and major deliverables
  - ✓ Project organization
- Financial impacts:
  - ✓ One-time costs
  - ✓ Ongoing costs
  - ✓ Cost/benefit analysis, including return on investment
  - ✓ Intangible benefits
  - ✓ Risk assessment
  - ✓ Funding sources
- Staffing impacts:
  - ✓ Implementation labor requirements
  - ✓ O&M labor requirements

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Improve the City's IT funding approach and associated mechanisms

Fully implementing the recommendations and projects described in this IT strategic plan – in particular, major investments in new municipal systems – will require large one-time expenditures. In tight budget times, money for these projects will have to come from information technology-specific capital improvement funds, rather than IT O&M funds or other general fund sources.

In addition, to realize the potential gains in efficiency and service quality offered by technology, Annapolis must invest resources accordingly. Higher IT O&M spending is a natural consequence of increased IT investment. Thus, the city needs to budget adequate funding for IT operations and maintenance. Simply reaching the low end of PTI's target range for local government (2.5 – 4.5% of total city O&M spending) will require an increase in city IT O&M spending from $1.57M to approximately $1.75M over the life of this plan (presuming total city O&M spending diminishes or remains constant). In addition, to adequately support all recommendations within this plan, annual IT O&M spending will need to reach at least $2.64M.[25] As technology becomes further integrated into the delivery of municipal services, Annapolis' IT O&M spending as a percentage of total IT O&M spending should approach the high end of PTI's target range for local government. If appropriately utilized, this additional technology investment will be more than offset by citywide gains in operational efficiency and service quality.

Associated Benefits
♦ **Clarifies the cost of annual IT operations and maintenance**
♦ **Mitigates large fluctuations in IT O&M spending**
♦ **Expands funding opportunities for major IT projects**

Enhance IT strategic planning efforts

To successfully achieve its IT goals, Annapolis needs to periodically review, revise and update its IT strategic plan. This includes the development of annual IT work plans to implement the IT strategic plan. These work plans establish the detailed tasks, timelines and resource estimates necessary to support this plan's broader IT projects and initiatives. Focusing on one year at a time breaks up the projects into smaller, more manageable steps. As the implementation schedule in chapter 4 indicates, achieving an optimal IT environment is a multiyear undertaking. As part of this strategy, Annapolis should regularly update its GIS and website plans, which outline specific, achievable goals for the City in these areas.

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[25] Chapter 4 presents one-time and recurring project cost estimates.

This strategy also requires detailed business analysis to support IT decisions. The City should conduct feasibility studies, as appropriate, to evaluate major IT issues, which will provide the detailed cost-benefit and business impact analysis necessary to make well-informed IT strategy and investment decisions. In particular, the City needs to periodically evaluate IT outsourcing opportunities. Increasingly, organizations outsource IT services – particularly for "commodity" IT services such as help desk and infrastructure services. Hosted solutions can offer viable alternatives to enterprise-owned applications and infrastructure. While Annapolis may cost-effectively provide these services and technologies, the City should regularly evaluate the benefits of utilizing third-party providers. This plan recommends a feasibility study to assess the costs, benefits, and risks related to potential IT outsourcing alternatives.

Associated Benefits
♦ **Ensures Annapolis achieves its desired IT goal state**
♦ **Helps the City make informed, measured progress toward its IT goals**
♦ **Builds upon recent GIS and website planning success**
♦ **Maintains the cost effectiveness of IT services**

Continue pursuing regional IT partnerships

Regional services and data sharing partnerships offer the potential to enhance citizen services and realize economies of scale. This strategy encourages Annapolis to continue participating in ventures with neighboring government organizations and seeking partnerships whenever they improve services, support City strategic priorities and/or save resources via economies of scale. Significant collaboration opportunities exist in GIS, emergency management, public safety, and data center/network infrastructure development.

Associated Benefits
♦ **Enables Annapolis to leverage economies of scale**
♦ **Reduces costs**
♦ **Expands citizen services**
♦ **Provides better management information**

Goal 1: Informed IT Decisions	Implementation Projects
	1.1 Develop and implement a formal citywide IT decision making process **1.2 Create an IT-specific capital improvement fund** **1.3 Conduct an IT outsourcing feasibility study**

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Goal 2: Accessibility and Accountability

Technology improves access to city information and services and promotes responsible municipal government.

IT has become a critical component of every public organization's ability to brand itself, do business with customers, provide public information, and facilitate internal communication. In addition, part of the City's success relies on its ability to accurately assess trends and make strategic decisions for the future. The following strategies support this goal:

♦ Measure IT performance

♦ Improve interaction with citizens

Measure IT performance

This strategy consists of implementing a more formal approach to IT performance management. It includes collaboration between MIT and business units to define specific IT performance targets and develop a process for measuring and regularly reporting on IT service. Sample performance metrics include: Tier 1 problem resolution rate (e.g., 75% of problems resolved via phone), number of problems per workstation, average time to resolution (e.g., 20 minutes), service unit cost for IT services, network uptime, number of unplanned outages, average length of unplanned outages, workstation impact minutes, number of security breaches, etc.

Associated Benefits
♦ **Enables city leadership to more quickly and accurately identify and address IT service concerns and clearly assesses IT project outcomes**
♦ **Increases business user confidence in IT staff and tools**
♦ **Builds consensus around IT service levels and improves accountability**
♦ **Identifies and build on areas of strength and addresses opportunities for improvement**

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Improve interaction with citizens

The use of social media, citizen relationship management systems (CRM/311), and public communication systems for outreach represent relatively new and unproven approaches to constituent interaction in the public sector. However, citizens increasingly expect their local governments to utilize these technologies. Technology has become a critical vehicle for communications (one way, two way, and interactive) with citizens, business partners, and other stakeholders, using a variety of media (telephone, web, email, social networks). Over the next five years, Annapolis needs to implement web 2.0 platforms and applications, as well as GIS technology, that will improve communication with stakeholders. It is important, due to the nascent nature of this technology, for Annapolis to thoroughly evaluate options available in the marketplace during the selection process. This strategy also includes continuing enhancements to Annapolis' Internet presence in accordance with the City's website plan.

Associated Benefits
♦ **Provides "one stop" convenience for residents and visitors**
♦ **Increases coordination and efficiency across departments**
♦ **Expands customer and stakeholder access to information and supports online transactions (in parallel with continuing website improvements)**
♦ **Allows citizens to engage with city government from the comfort of their own homes, public facilities, wi-fi hot spots, kiosks, and more**
♦ **May save money using a social media presence compared to traditional marketing and public interaction methods**

Goal 2: Accessibility and Accountability	Implementation Projects
	2.1 Define IT performance measures 2.2 Evaluate potential CRM/311 solutions 2.3 Implement the preferred CRM/311 solution

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Goal 3: Streamlined City Services

Information systems streamline city operations and improve service.

Perhaps more than any other IT investment area, business software directly and visibly supports the City's ability to perform daily operations. Implementing new technology is a critical step in improving operations, but automation must also be supported by an enterprise commitment to business process change. This strategic goal leverages the built-in best practices and capabilities of commercial software – and emphasizes application integration and data sharing – to enhance operational efficiency and effectiveness. The following initiatives work together in support of this goal:

♦ Improve business automation

♦ Emphasize use of commercial software

♦ Leverage the inherent web capabilities of new software

Improve business automation

Over the course of the plan, Annapolis must address a number of severe application gaps. The highest priority areas for new software consist of financial management, document/records management, maintenance and facilities management, human resources/payroll management, and utility customer information management. When acquiring new systems, Annapolis needs to select commercially proven software packages that offer measurable value and support the City's business needs. In addition, Annapolis should select new software with a preference toward integrated systems, which will reduce costs and simplify implementation and support. As part of an IT strategy workshop, PTI facilitated an application prioritization process with the City's project steering committee. The results of that prioritization informed this IT plan's strategies and recommended projects.

Associated Benefits
♦ **Introduces new automated functionality**
♦ **Automates business workflow**
♦ **Enhances service quality and improves productivity**
♦ **Reduces the City's reliance on paper and paper-based processes**
♦ **Increases stakeholder access to information**
♦ **Maximizes the value of Annapolis' technology investment as well as the productivity of many non-IT resources**

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Emphasize use of commercial software

Most municipal software vendors incorporate business process "best practices" into their software products, allowing work tasks to progress electronically, and build their systems on common platforms, improving integration capability. Accordingly, Annapolis should avoid custom application development. The advantages offered by commercial software packages are too great to be ignored and custom software development is rarely cost effective. As the City implements new business applications with expanded functionality, it needs to retire existing supplemental systems, files, and tools (e.g., Excel spreadsheets, custom-developed Access databases) and implement workflow automation whenever possible. Perhaps most importantly, MIT must partner with business units to reengineer work processes. There are no longer "technology" projects – only business projects with a technology component.

Associated Benefits
♦ **Leverages automated workflow and "best practices" built into the software**
♦ **Improves data integration capabilities**
♦ **Enhances service quality and productivity**
♦ **Focuses IT support skills on a limited set of platforms and core competencies**
♦ **Keeps pace with advancements in technology**
♦ **Limits reliance on institutional knowledge and siloed solutions**
♦ **Increases stakeholder access to information**

Leverage the inherent web and GIS capabilities of new software

Citizens and businesses increasingly utilize the Internet to conduct business and acquire information. Accordingly, their expectations for information and service availability via the Web will continue to rise. City stakeholders have also become more accustomed to leveraging geospatial data through GIS to access public information, assess economic development potential, track health and wellness data, and facilitate many other activities. Most applications designed to automate local government services (e.g., applying for a building permit, paying a parking fine, investigating a utility bill) provide significant web and GIS functionality and integration. As such, city staff supporting these new applications will need to possess appropriate web and GIS skills. Successfully implementing and utilizing these features should be a high priority as the City invests in new business systems.

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Associated Benefits

- ♦ **Meets the increasing expectations of Annapolis' citizens**

- ♦ **Develops the City's ability to offer the support of a "virtual City Hall" that provides information and services without requiring physical interaction with Annapolis' business units**

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Goal 3: Streamlined City Services	Implementation Projects
	3.1 Implement a new customer information management system **3.2 Implement a new human resources/payroll system** **3.3 Implement a financial management system** **3.4 Implement an electronic document management system** **3.5 Implement a citywide maintenance management system** **3.6 Pilot decision support/business intelligence software**

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Goal 4: Reliable Technical Infrastructure

Technical infrastructure is secure, reliable, and cost-effective.

The City's technology infrastructure provides a foundation for the software that streamlines operations and automates critical business functions. It includes the hardware, system software, databases, operating systems, and network components that support Annapolis' application portfolio. The following strategies support a technology infrastructure aligned with this goal:

- Maintain a modern IT environment and architecture

- Position IT to support business continuity

- Ensure appropriate security for IT systems and data

Maintain a modern IT environment and architecture

As previously stated, information technology requires ongoing investment to maintain its reliability and operational effectiveness. This initiative consists primarily of the following three elements:

- Utilize a professionally-designed data center – The City should evaluate options for hosting its servers and critical network components in an improved environment. Options may include sharing a data center with a neighboring government partner, outsourcing data center operations, and building a new data center. To optimize the new data center's effectiveness, Annapolis should also complete the final phase of the fiber ring. This strategy will improve access control, security, environmental controls and remote management capabilities.

Associated Benefits
♦ **Ensures the long-term reliability and security of critical IT assets**
♦ **Reduces the risk of service disruption**
♦ **Increases network and application responsiveness**
♦ **Enhances storage management**

- Implement a formal technology replacement cycle with sufficient and continued funding – Define specific life cycles for PCs (e.g., 2-3 years), servers (e.g., 4-5 years) and key network and infrastructure components (e.g., 5-7 years). Establish funds to replace hardware as it approaches end-of-life.

Associated Benefits
♦ **Establishes a sustainable computer and network environment across the City**
♦ **Avoids unplanned and unbudgeted expenditures**
♦ **Ensures the long-term reliability of IT assets**

♦ <u>Standardize on no more than two server operating systems</u> – As the City implements new automation, limit the number of server platforms (e.g., Windows 2008, Linux) in use. In the future, server and network architectures that rely on fewer modern platforms will provide greater value than older heterogeneous mixes.

Associated Benefits
♦ **Simplifies IT support**
♦ **Leverages bulk purchasing opportunities**
♦ **Eases the potential transition to an externally managed data center**

Position IT to support business continuity

A continuity of operations plan (COOP) establishes which business functions are most crucial to City stakeholders, and guides business operations during and after a major interrupting event (e.g., earthquake, extended power outage). Disaster recovery plans specify the activities IT must conduct to bring business operations back online – in the order determined by the COOP. They include guidelines for networks, hardware, data and applications. MIT needs to revise and expand Annapolis' current disaster recovery plan to restore service more quickly and to utilize a backup location outside city limits. This plan should leverage a professionally-designed data center, as described in the previous strategy.

Associated Benefits
♦ **Minimizes disruption in business activities**
♦ **Allows the City to smoothly continue operations and provide municipal services in case of a disaster**

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Ensure appropriate security for IT systems and data

Federal and state mandates for information security and privacy, as well as citizen expectations, continually increase the need for adequate information security. This strategy puts in place enhanced physical (e.g., locked doors/cabinets) and logical (e.g., network structure, passwords) IT security policies, practices, and tools. Data assets (e.g., customer/citizen information, City documents) should be categorized by security risk level and protected appropriately. A professionally-designed data center, as described earlier, should provide sufficient physical security. Annapolis should engage third-party specialists to conduct annual security audits and triennial security assessments to ensure that the City's technical environment is equipped to deal with potential threats and the ever-changing IT risk environment.

Associated Benefits
♦ **Helps the City discover and address internal (e.g., inadequate or abused policies, permissions or physical security) and external (e.g., viruses, hackers, denial of service attacks) security threats**
♦ **Protects the City's information assets**
♦ **Positions the City as a trusted keeper of citizen information**

Goal 4: Reliable Technical Infrastructure	Implementation Projects
	5.1 Utilize a professionally-designed data center to host core infrastructure **5.2 Revise disaster recovery plan** **5.3 Define, fund, and implement a formal technology replacement cycle** **5.4 Conduct annual IT security audits and assessments**

Goal 5: Responsive IT Support

IT services are customer-oriented and responsive.

The City must provide IT services that effectively and proactively respond to business unit needs, and stay current with technology. The following strategies address these objectives:

♦ Increase IT staffing levels

♦ Organize MIT division along functional lines

♦ Enhance and modernize IT skill sets

♦ Formalize IT service desk processes and procedures

♦ Contract for specialized IT skills as needed

♦ Provide sufficient space for IT staff and equipment

Increase IT staffing levels

As help desk and infrastructure services become more commoditized and increasingly automated, organizations realize greater IT service efficiencies. Application support, on the other hand, is more technically specialized and requires a fluent understanding of business needs. In high performing organizations, application services staff often account for 50% or more of total IT staffing. As indicated in Goal 3, this area is also where the organization maximizes the value of its technology. **Though this plan recommends augmenting current IT staffing levels, the City may choose to outsource some portion of IT support predicated on the results of the IT outsourcing feasibility study (project 1.3).** The description herein assumes that Annapolis continues to provide IT service and support internally. Note that this **increase in IT staffing levels occurs *incrementally* over the course of the plan's time horizon.**

This initiative adds five to six (5-6) additional FTEs of application support staff, as needed over the next six years, to support new business automation and better align the City's application services with best practice staffing levels. These personnel will provide much needed business analysis capabilities and application support for the City's new business systems. They will also bring application-specific web and GIS skills, as necessary, to extend the capabilities afforded by new vended software.

Contingent on Annapolis' future data center approach, this strategy also requires 1-2 additional FTEs for server administration, data center operations, and security administration labor effort. These personnel will primarily support hardware associated with new application investments.

Finally, this strategy also requires Annapolis to add one FTE focused on IT training and customer account management, which will support both the development of the business user IT training program and IT service desk improvements.

These additional FTEs would increase IT operations and maintenance staffing from 1.81% of total O&M staff to 3.25% (PTI's target range is 3 – 5%). The following table provides a more detailed illustration of the recommended reallocation. The first three columns represent central IT labor, the second three columns represent police (APD) IT labor, and the last three columns represent total citywide IT labor. Columns labeled "current" indicate Annapolis' existing IT labor allocation as of November 2009. Columns labeled "target" indicate PTI's recommended IT labor allocation, and the "Net Change (rounded)" column calculates the difference between the current and target IT staffing levels. The rows classify the labor effort into the five IT disciplines defined by PTI for analysis purposes.

Proposed IT Staffing Levels and Allocation[26]

	MIT Effort			Police (APD) IT Effort			Citywide IT Effort		
	Current	Target	Net Change	Current	Target	Net Change	Current	Target	Net Change
Customer Services	1.55	3.00	**1.45**	0.39	0.00	**(0.39)**	1.94	3.00	**1.06**
Infrastructure Services	2.39	4.25	**1.86**	0.11	0.00	**(0.11)**	2.50	4.25	**1.75**
Application Services	2.36	5.00	**2.64**	1.50	4.00	**2.50**	3.86	9.00	**5.14**
IT Planning	0.34	0.75	**0.41**	0.00	0.25	**0.25**	0.34	1.00	**0.66**
IT Administration	2.05	2.00	**(0.05)**	0.00	0.00	**0.00**	2.05	2.00	**(0.05)**
Total	8.69	15.00	6.31	2.00	4.25	2.25	10.69	19.25	8.56

It is important to note that the target IT staffing levels shown above represent a strategic end state.

As previously indicated, shifts in IT labor effort should take place incrementally over the plan's timeline. Also as noted earlier, most of the increases in application support labor should coincide with the implementation of new business software.

In addition, this target IT O&M staffing level should sufficiently support all the application investments and other recommendations described in this IT strategic plan. However, this IT staffing projection assumes that the overall size of city government, in terms of personnel (FTEs) and expenditures, remains relatively stable. It does not account for significant increases or decreases in organizational

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[26] The table shows an increase of 8.56 FTEs rather than 8.00 FTEs suggested in the narrative. The table assumes that the City can reallocate existing GIS data maintenance labor to GIS support (0.50 FTEs) – with business unit subject matter experts providing the GIS data maintenance – and existing IT capital project labor to IT O&M labor (0.06 FTEs) – with temporary IT staff compensated through CIP funding providing backfill labor during IT capital projects.

size, which would impact IT staffing levels accordingly, particularly in customer services and infrastructure services.

As the figure below indicates, this increase in IT O&M staffing more closely aligns the City's IT labor with PTI's target ranges. The chart depicts current and proposed distribution of Annapolis' IT labor effort across the five IT functions. The yellow rectangles indicate PTI's target range for each IT function.

City of Annapolis Current and Proposed IT Staffing Allocation Relative to PTI's Target Ranges

Legend

- Current
- Proposed
- PTI Target Range
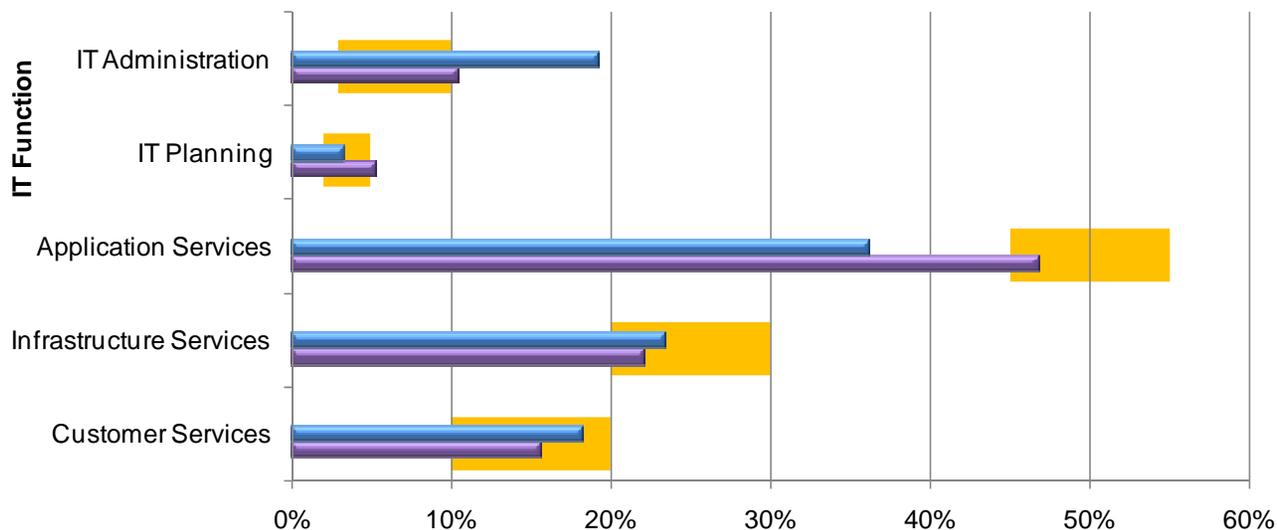
| Associated Benefits |
| --- |

- ♦ **Brings Annapolis' level of IT O&M staffing in line with its IT vision**
- ♦ **Helps realize service economies of scale**
- ♦ **Improves responsiveness to business units**
- ♦ **Enhances the City's ability to support and make the best use of existing business software**
- ♦ **Prepares the City for an expanding application portfolio**
- ♦ **Improves business unit operational efficiency**

Organize MIT division along functional lines

This strategy involves formalizing the roles and responsibilities within MIT. It reorganizes MIT staff from the existing units (Operations, Services, GIS, and Web) around four primary IT disciplines (application services, infrastructure services, customer support services, and administrative services) and staffing those areas according to best practices. The organizational models that follow depict current and proposed MIT organizational structures.

Current MIT Organization

```
Director of Finance
1 FTE
        |
   MIT Manager
     1 FTE
     /         \
Operations      GIS
2 FTEs         2 FTEs

Services        Web
3 FTEs         1 FTE
```

Proposed MIT Organization

```
    TBD
   1 FTE
     |
  MIT Manager
    1 FTE
    /          \
Application Services   Customer Support Services
5-6 FTEs              3-4 FTEs

Infrastructure Services   Administrative Services
4-5 FTEs                 2 FTEs
```
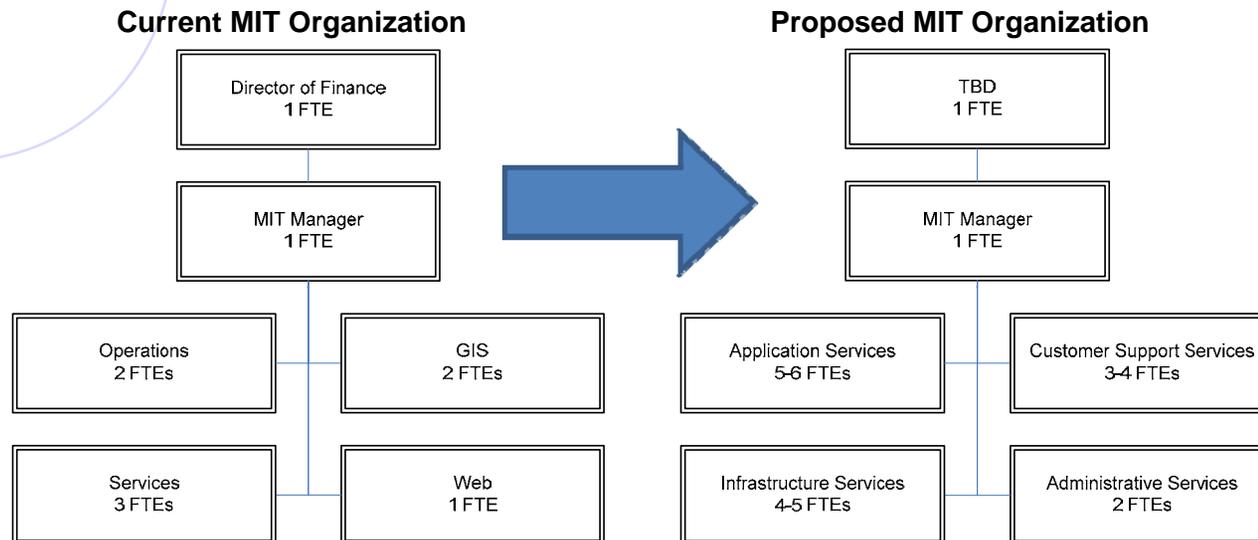
The MIT reorganization can be summarized as follows:

♦ Current Operations staff move into the new Infrastructure Services division, augmented by incremental IT O&M personnel increases

♦ Part of the current Services staff move into the new Administrative Services division and the remainder move into the new Customer Support Services division, augmented by incremental IT O&M personnel increases

♦ Current GIS and Web staff move into the new Application Services division, augmented by incremental IT O&M personnel increases

In addition, this new structure also relocates the MIT division. During workshops with the project steering committee, PTI suggested positioning MIT within Central Services. PTI made this recommendation based on a long term, strategic view for IT at the City of Annapolis, independent of current city employees occupying any of these roles. However, at the time of this plan's writing, recent changes in Annapolis' administration put the City's overall operations and organization in a state of flux. As such, we elected to leave this to-be-determined ("TBD") in this plan's proposed organizational chart.

The following provides a brief assessment of the pros and cons attendant to alternative MIT reporting structures:

Central Services – As a ubiquitous part of city infrastructure, technology and information systems would be a natural fit within a division handling enterprise functions and managing capital projects. Like other functions currently under Central Services (e.g., purchasing, real estate management, leasing, space planning, capital programs) – IT represents a citywide service need. However, we understand that Central Services, as it currently exists, may be eliminated by the new administration as part of a broader city reorganization.

Mayor's Office (creates a CIO position) – Though some advisors have advocated a cabinet-level CIO reporting to the Mayor, notably the recent EquaTerra report and the new Mayor's idea team, PTI does not believe the size of Annapolis' current IT organization warrants a separate department at this time. From our experience, mayors typically don't want the IT function as a direct report and aren't elected to office by voters to oversee the support of that function. In this type of structure, operational support services (e.g., IT) often create an added, unnecessary burden on policy-making activities. In the future, a CIO role may be appropriate, provided that the City completes most or all of the technology investments described in this plan and expands its use of technology and support staff accordingly. The need for this position would also be contingent on Annapolis' strategy with regard to outsourcing, cloud computing, and the future application environment.

Chief Administrative Officer – The new administration's transition idea team recommended the consolidation of a number of departments under the aegis of the Chief Administrative Officer. At the time of this plan's writing, the City had made no formal decisions. However, as described under our assessment of a potential move to Central Services, PTI views grouping MIT with other administrative functions and citywide support services (e.g., human resources, finance, purchasing, capital programs) as an appropriate solution for a city of Annapolis' size. This structure buffers the Mayor and City Council from the day-to-day operations, and possible minutia, of managing enterprise-wide administrative functions and – in particular – IT support.
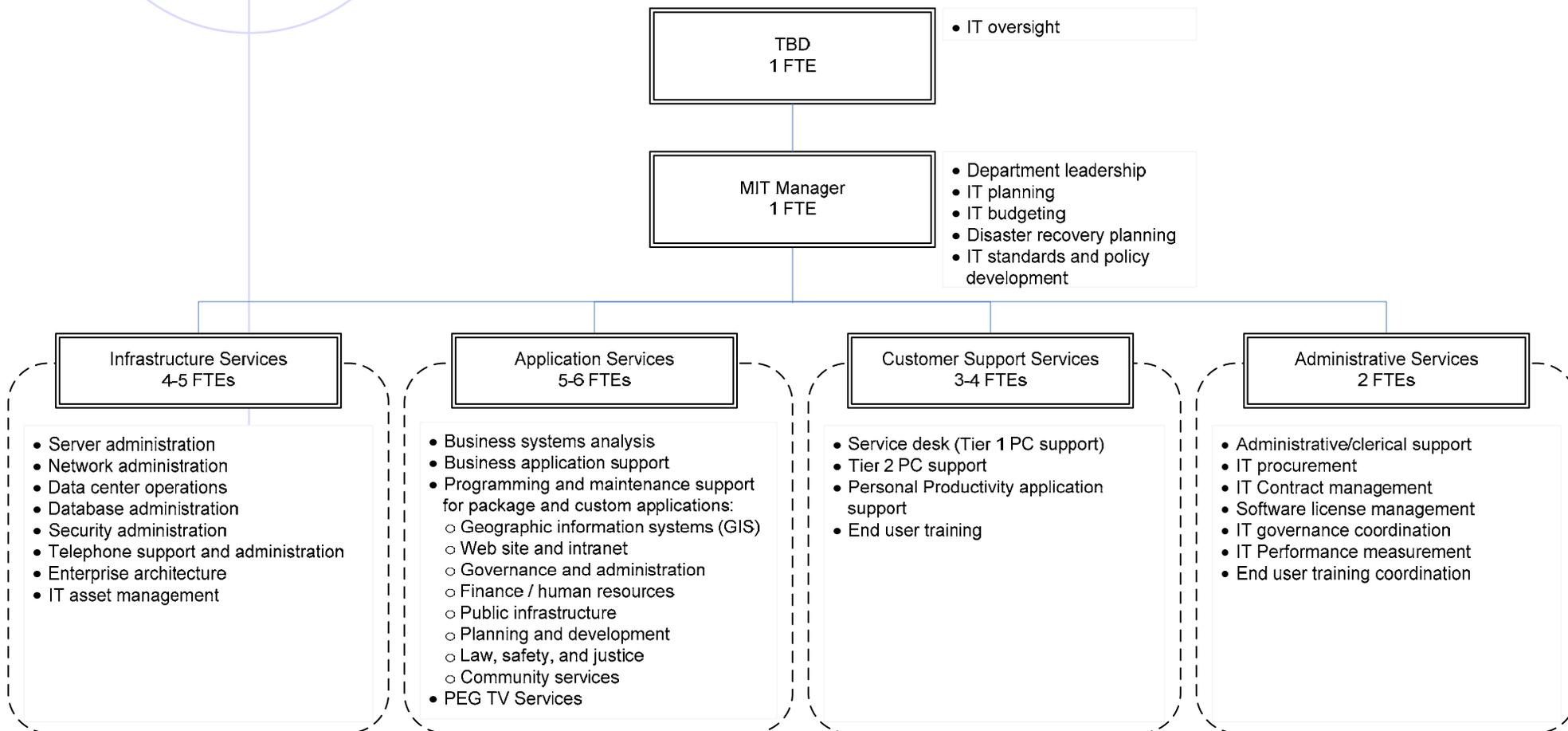
Finance (status quo) – This approach would leave MIT's existing reporting structure alone. However, in PTI's experience, this approach no longer represents a best practice. IT has moved from a back-office financial support function and is now viewed as a driver for transforming business operations

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across the enterprise. External reviews of the City's organization (e.g., PTI, EquaTerra, new Mayor's transition idea teams) consistently recommend that IT should occupy a different place in the reporting hierarchy. Annapolis has made only limited progress in technology over the past decade. An organizational move may help Annapolis overcome this trend.

Ultimately, the following criteria should bear the most influence on this decision: elevation of IT as a citywide priority, the need for organizational change, and MIT's role as an internal service provider.

The following page presents a recommended MIT organizational chart, including division roles and responsibilities.

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Proposed MIT Organization (detailed)

TBD
1 FTE
- IT oversight

MIT Manager
1 FTE
- Department leadership
- IT planning
- IT budgeting
- Disaster recovery planning
- IT standards and policy development

Infrastructure Services
4-5 FTEs
- Server administration
- Network administration
- Data center operations
- Database administration
- Security administration
- Telephone support and administration
- Enterprise architecture
- IT asset management

Application Services
5-6 FTEs
- Business systems analysis
- Business application support
- Programming and maintenance support for package and custom applications:
  - Geographic information systems (GIS)
  - Web site and intranet
  - Governance and administration
  - Finance / human resources
  - Public infrastructure
  - Planning and development
  - Law, safety, and justice
  - Community services
- PEG TV Services

Customer Support Services
3-4 FTEs
- Service desk (Tier 1 PC support)
- Tier 2 PC support
- Personal Productivity application support
- End user training

Administrative Services
2 FTEs
- Administrative/clerical support
- IT procurement
- IT Contract management
- Software license management
- IT governance coordination
- IT Performance measurement
- End user training coordination

Associated Benefits
♦ **Enhances internal IT customer service**
♦ **Increases IT operational efficiency and staff productivity**
♦ **Improves management and control of clearly delineated IT service disciplines (e.g., infrastructure services, customer services)**
♦ **Positions the City for ongoing optimization of its IT resources**
♦ **Offers better career paths and advancement opportunities for IT personnel**

Enhance and modernize IT skill sets

The City lacks sufficient IT skills in some areas as described in chapter 2. This strategy increases Annapolis' investment in IT training as well as expanding technical skill requirements for new hires. It develops and implements individualized, coordinated training programs for IT personnel in the following areas: tier 2 PC support, business analysis, and database administration.

Associated Benefits
♦ **Ensures availability of current IT skills**
♦ **Provides opportunities for IT staff to refresh and/or update their skills**
♦ **Makes Annapolis a more competitive employer**
♦ **Improves IT operational efficiency**
♦ **Increases the value received from technology**
♦ **Expands the City's ability to support a modern application portfolio**
♦ **Enhances end user satisfaction**

Formalize IT service desk processes and procedures

In association with the increase in IT O&M staff and the reorganization of IT services, Annapolis needs to formalize its approach to IT customer support. Key elements of a structured IT service desk include:

♦ Clear definition of customer support roles and responsibilities

♦ Standard problem resolution processes

♦ Full-time coverage of the service desk phone line

♦ Consistent use of remote IT support tools

♦ IT service performance measures

♦ Integrated IT inventory management

♦ Approach to providing 24/7 support

Associated Benefits
♦ **Streamlines IT services**
♦ **Enables IT staff to respond more quickly to IT needs**
♦ **Raises overall service quality**
♦ **Improves problem resolution**
♦ **Increases user confidence in IT support**
♦ **Aligns IT support with city business needs**
♦ **Provides better management information surrounding IT service delivery**

Contract for specialized IT skills as needed

Given Annapolis' relatively small size, it is impractical for the City to retain highly specialized and/or unique IT skills on staff. The City should hire the necessary expertise as needed on a temporary basis. In particular, this includes contracting with professional project managers for major IT projects.

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Associated Benefits
♦ **Enables the City to acquire scarce IT skills as needed**
♦ **Increases the probability of successful project implementation**
♦ **Standardizes IT project management practices**
♦ **Supports IT implementation efforts**
♦ **Positions the City to manage IT projects throughout this IT strategic plan**

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Provide sufficient space for IT staff and equipment

The new MIT division location does not include space for IT equipment storage and will neither support increases in MIT staff nor an expanded role for technology to support city operations. Annapolis must locate work, storage, and archiving space that will be adequate for both current and future IT support needs and prepare to expand (or reduce) this space as needs change.

Associated Benefits
♦ **Improves IT operational efficiency and IT service quality**
♦ **Makes Annapolis a more attractive place to work for IT staff**
♦ **Aids IT asset tracking and management**

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Goal 5: Responsive IT Service Delivery	Implementation Projects
	5.1 Adopt new MIT organizational structure and increase staff 5.2 Establish a professional IT service desk 5.3 Train IT staff 5.4 Upgrade MIT workspace 5.5 Contract professional IT project management services

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Goal 6: IT Enabled Workforce

City workforce is computer-literate and technology-enabled.

The benefits of automation will never be fully realized unless city personnel are comfortable with technology, trained in its use, and provided sufficient access. This goal invests in ongoing staff development and connectivity to ensure employees can effectively utilize business applications as well as leverage other technologies that improve operations. The following strategies support this goal:

♦ Ensure adequate technology training for city personnel

♦ Expand access to the city network

Ensure adequate technology training for city personnel

In addition to enhancing IT staff skills and abilities, Annapolis should also provide regular training opportunities for business users. The MIT division should collaborate with human resources to develop, implement, and maintain this technology training program, which will provide city staff with the opportunity to regularly refresh and/or update their skills.

Expand access to the city network

This strategy ensures that all major city locations have fiber network connectivity and implements indoor wireless access points (WAPs) in selected city buildings. These connections will provide network access for city staff and contractors in support of Annapolis operations and may be expanded in the future based on city business needs. They will also prevent City staff from being tethered to their workstations/cubes, improving overall productivity. Beyond the life of this plan, the City may also need to expand connectivity by using mobile devices (e.g., smart phones) and specialized field equipment associated with specific business functions. Annapolis should consider leveraging public-private partnerships in this area, as appropriate.

Associated Benefits

♦ **Increases city staff connectivity, mobility and collaboration**

♦ **Extends connectivity to locations without physical network access**

♦ **Increases business user productivity**

♦ **Enhances management information access during key meetings**

Goal 6: IT Enabled Workforce	Implementation Projects
	6.1 Implement a technology training program for business users **6.2 Install indoor wireless access points at city facilities**

IT Project Alignment with City Strategic Priorities

IT investments must be aligned with business needs.

To ensure the best use of limited resources, IT investments must be aligned with business needs. The table below presents the major benefits of this study's recommendations, aligned with the City's strategic priorities.

IT Project Alignment with City Strategic Priorities

	Strategic Priorities				
	Public Safety	Community Participation	Public Infrastructure	Fiscal Stewardship	Quality of Life
Goal 1: IT investments align with city strategic priorities					
1.1 Develop and implement a formal citywide IT decision making process			✔	✔	
1.2 Create an IT-specific capital improvement fund			✔	✔	
1.3 Conduct an IT outsourcing feasibility study			✔	✔	
Goal 2: Technology supports accessible and accountable government					
2.1 Define IT performance measures		✔		✔	
2.2 Evaluate potential CRM/311 solutions		✔	✔	✔	✔
2.3 Implement the preferred CRM/311 solution		✔	✔		✔
Goal 3: Information systems streamline city operations and improve service					
3.1 Implement a new utility customer information management system		✔		✔	
3.2 Implement a new human resources and payroll system				✔	✔
3.3 Implement a financial management system			✔	✔	
3.4 Implement an electronic document management system	✔	✔	✔	✔	
3.5 Implement a citywide maintenance management system		✔	✔	✔	✔
3.6 Pilot decision support/business intelligence software	✔			✔	✔
Goal 4: Technical infrastructure is secure, reliable, and cost effective					
4.1 Utilize a professionally-designed data center to host core infrastructure	✔		✔	✔	✔
4.2 Revise disaster recovery plan	✔		✔		
4.3 Define, fund and implement a formal technology replacement cycle	✔		✔	✔	
4.4 Conduct annual IT security audits and triennial assessments	✔				
Goal 5: IT services are customer-oriented and responsive					
5.1 Adopt new MIT organizational structure and increase staff				✔	
5.2 Establish a professional IT service desk				✔	
5.3 Train IT staff				✔	
5.4 Upgrade MIT workspace				✔	
5.5 Contract professional IT project management services			✔	✔	
Goal 6: City workforce is computer-literate and technology-enabled					
6.1 Implement a technology training program for business users	✔		✔	✔	
6.2 Install indoor wireless access points at city facilities		✔	✔		

Chapter 4 presents an implementation plan for the key projects listed in this chapter. Appendix E provides detailed project descriptions, costs, and cost assumptions.