{IT Assessment}

TOWN OF NANTUCKET, MA | JANUARY 2016

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1 Introduction

1.1 Nantucket Overview

The Town of Nantucket is located on Nantucket Island and includes the islets of Tuckernuck and Muskeget. It is situated in the Atlantic Ocean and lies approximately 25 miles south of Cape Cod. Nantucket was deeded in 1641 by the English to merchants from Watertown, Massachusetts and Martha's Vineyard. In the 1670s the Nantucket whaling industry began, which boomed until around the mid 1800's. In the 1950's, developers began buying large parts of the island and restoring or developing them to eventually create a high-end market destination in the Northeast United States which is what it has evolved into in the present day. In 2008 Nantucket was cited as having home values amongst the highest in the United States.

The Town operates under the Selectmen, Town Manager and open town meeting form of government. The five elected Selectmen make policy decisions and the Town Manager is responsible for carrying out and enforcing the policies of the Selectmen and for managing the day to day operations of the Town. An annual operating budget is approved by Town Meeting in April. This annual budget serves as the foundation for the Town's financial planning and control.

The population of Nantucket increases from just over 10,000 year-round to approximately 50,000 in the summer, contained within 47.8 square miles. It is accessible year-round by ferry and the Town-owned Nantucket Memorial Airport. .

The Town operates with a total general fund budget of $82.4 million and 941 staff members in FY16. The employees' IT needs are supported by an IT division consisting of four full-time employees and one part-time employee, who work to serve the IT needs of the Town departments.

1.2 Project Background and Overview

Nantucket has requested this IT assessment in order to gain an objective view of how technology services are currently being used and managed, ensure that technology is in compliance with government guidelines and best practices, review current technology policies, and to develop recommendations to meet the evolving technology demands of the Town.

This Assessment measures expectations and perceptions of IT relative to capabilities, resources, vulnerabilities, and internal IT priorities and identifies gaps and offers recommendations to improve productivity and efficiencies. It also includes a review of the various aspects associated with the acquisition, distribution and management of IT resources, as well as a review of the staffing levels and positions that are required for supporting the Town of Nantucket's IT environment.

Overall, the IT Assessment provides a point-in-time snapshot of the overall status of the organization's information technology landscape. This snapshot can be used to measure the progress of implementing change and achieving strategic goals.

Following the review of this Assessment by Town Management, Plante Moran will be facilitating an IT visioning workshop with the Town with the intent of defining and prioritizing key future Town technology projects in order to develop a strategic road map for the next five years.

1.3 Scope of Review

The Information Technology Assessment for the Town encompasses a review of Organization, Administration, and Technology as depicted below along with key questions that were considered during the assessment:

During project initiation activities, the Plante Moran team worked with Town staff to refine the scope of the assessment in connection with these three IT assessment areas. The table on the following page, which is broken down by each of these areas, shows each of the topical areas for review.

Scope of Review

Assessment Areas

Components and Sub-Components

Organization

Governance:
- Organization structure
- Organization benchmarks
- Succession planning
- Staff compensation

Support:
- Staff complement
- Staff development
- Job descriptions
- Staff competencies
- Performance evaluations
- Recruiting
- External service providers
- User liaisons
- Steering Committee role
- Service Level Agreements

User Satisfaction:
- Responsiveness
- Effectiveness
- Communication

IT Leadership:
- Technical
- Business
- Regionalization

Administration

Delivery:
- Project mgt. approach
- SLA reporting
- Problem reporting
- Helpdesk administration
- Network / workstation management
- Software deployment
- Performance reporting
- Vendor management
- Application development
- Document management
- Strategic sourcing
- Operating procedures
- Cost allocation

IT Strategy:
- Current plans
- Project prioritization
- Technology procurement
- Budgeting
- Project portfolio mgt.
- Business case development
- Standards
- Planning process
- Infrastructure

Policy:
- User policies & procedures
- IT policies & procedures
- Business continuity planning
- Security Management
- Disaster Recovery

Technology

Internet:
- Remote access
- Web site & security
- Social Media
- Web strategy
- Cloud computing

Data:
- Data ownership
- Data integrity
- Data security
- Data warehousing
- Data backup

Network (LAN/WAN):
- Servers/Storage
- NOS
- Cabling
- Network
- Storage

Applications:
- Enterprise applications
- Line of business applications
- Enterprise application security
- Reporting/Analytics
- Integration
- Databases
- Platforms and tools

End-User Computing:
- Workstation strategy
- Printer Strategy
- Office automation
- Operating system
- Refresh
- Mobile devices

1.4 Project Work Plan

Our project work plan was organized into the following set of activities intended to achieve the project objectives. The major activities performed included:

1.4.1 Conducted Project Management Activities

Overall project management activities for the IT assessment phase were performed, including:

- Conducted project initiation
- Defined project organization structure
- Developed project charter
- Developed detailed project plan
- Established project collaboration center
- Conducted project kick-off meeting
- Scheduled and moderated project status meetings

1.4.2 Collect and Review Documentation

Plante Moran reviewed existing documentation to gain a comprehensive understanding of the Town's documented strategic plans, identified initiatives and current technology environment. We use the Project Collaboration Center to populate requests for detailed information pertaining to the following areas:

- Current information technology organization
- Management processes
- Standards
- Technology infrastructure
- Applications

For ease of document management and distribution, we use the Project Collaboration Center as the means of populating the requested information that has been obtained

1.4.3 Conducted IT Staff Interviews

We met with all Town IT staff to review their areas of support and other organizational, administrative and technology support components. The interviews were performed after IT staff shared a completed survey that shared information in the following areas:

- Job duties and responsibilities
- Organization structure
- Work volume
- Communication / working relationship
- Current technology policies
- Other comments / suggestions

1.4.4 Reviewed and Assessed Technical Environment

We conducted a review of the existing technical environment at the Town including all aspects of hardware, software, networking, telecommunications, and relevant security for all of the various components. We also conducted an inventory of existing specialized or unique applications used throughout the Town. Various components of the technical environment was assessed as part of the interviews with Town IT staff as well as the following detailed assessment surveys that were deployed during the project's initiation:

- Backup Systems Questionnaire
- Data Center Questionnaire
- Disaster Recovery Questionnaire

- Remote Office Connectivity Questionnaire
- Server and Network Administration Questionnaire
- Voice System Questionnaire

1.4.5 Conduct On-Line End-User Survey

We distributed an online survey that identified satisfaction with services provided by the IT Department and satisfaction with technologies in use within the Town. This survey was made available to all Town staff and included questions in the following topic areas:

- Direction and Leadership
- Communication
- Service & Support
- Technology
- Training

A comprehensive analysis of the information will be provided to the Town as part of our final report. From the survey results, we can identify gaps between current levels of service and desired levels of service as well as gaps where current technology is not meeting the needs of a particular department, area, or the Town as a whole.

1.4.6 Conducted Stakeholder Interviews

We conducted meetings with staff within Town departments, including management, end-users, and other relevant stakeholders to solicit feedback regarding:

- Discuss the business requirements of the department and how IT can assist in meeting these requirements
- Solicit feedback regarding project prioritization, governance, and existing policies
- Discuss the departments' perceptions as to how IT can improve
- Assess how information about IT requests are gathered
- Discuss how the scope of IT initiatives are defined, and how the initiatives are justified, approved, funded/budgeted, and prioritized
- Discuss the approach taken to align IT initiatives with operational priorities
- Discuss the typical approach to project management
- Identify other current and anticipated information and technology needs over the next five years

We discussed the customers' perceptions as to how IT can improve, especially as it relates to how well IT initiatives meet the customer's business and management requirements.

1.4.7 Conducted Comparative Research

We worked with the Town to identify appropriate targets to use for IT benchmarking. Targets were identified based on having similar demographics to Nantucket, and Plante Moran also leveraged research and work we have conducted relative to private sector organizations. We took the results from our "Best Practices" research and conducted comparisons with the Town to include the following areas:

- Departmental structure and staffing patterns
- Information technology funding levels and the allocation of those funds
- Alternate service delivery options that are being used
- Technology maturity in the use of various technologies (e.g., document imaging, e-government, CRM, etc.)
- Cost of services and funding
- Other areas deemed necessary

2 Management Summary

2.1 Summary of Observations

Overall, Nantucket has a well-functioning Information Technology Department considering its small size and unique logistical challenges. The staff and management within Information Technology are technically competent and are committed to best serving the Town and its constituents. This is evidenced by the consistently positive feedback that the Plante Moran team received regarding the Information Technology staff throughout the stakeholder interview process. In addition, it is apparent that the Town is very forward thinking with the hiring of a full time social media director and strategy and some of the technology improvement projects that are on tap in the near term. Overall, management and staff in the Town's other departments praised the individuals in Information Technology for their responsiveness when addressing various IT issues.

Plante Moran did observe, however, that despite the high marks from end users noted above, the Information Technology Department is not effectively equipped to handle the increasing volume of requests from departments and simultaneously establish and execute the Town's IT strategic direction. The volume of requests from end users requires all of the Information Technology resources to respond to user requests, generally irrespective of request complexity. Ideally, the workload should be such that the specialists can handle the daily tasks so that the manager can focus on strategic planning, prioritizing, and project management tasks.

Located on an island the Town also faces some very unique IT-related logistical challenges. For example, several of the Town's technology users cited limited bandwidth and poor reliability as major issues with the current environment. This may prove to be a hurdle if the Town decides to adopt a "cloud first" technology strategy. In addition, attracting highly qualified IT staff from off island, is difficult without offering wages that surpass market expectations. In addition, as development in the town increases and the year round population grows, the Town's IT infrastructure has not been improved in parallel with the growth.

It is apparent that Town management has an interest in adopting a more advanced view of IT: "IT as an investment." As such, concepts such as overall return on investment, improved customer service, and IT governance are of growing importance. Many of the recommendations in the below sections, as well as the goals that will be included in the IT Strategic Plan (under separate cover), will be made from the perspective of "IT as an investment."

Our major recommendations, located below in **Section** 3**: Information Technology Assessment**, are designed to assist the Town to:

1. Provide a high level of IT customer service, both internally and externally
2. Apply IT governance concepts to align IT services with the current vision of Town leadership
3. Increase the Town's return on its investments in technology and services
4. Once these recommendations are validated with the Town, they will provide a basis for the IT Strategic Plan.

2.2 Major Strengths and Weaknesses

The following is a summary of key strengths and weaknesses identified during the Information Technology Assessment process.

Strengths

- Town management supports IT as a strategic resource
- Helpdesk support has improved over the past few years via the rollout of a new helpdesk ticketing system
- The Town is leveraging the value of IT by investing in an expanded social media presence
- Minimal staff turnover
- Strong customer service culture throughout the Information Technology Department
- IT staff members have good synergy and are well regarded by customers
- The IT staff are regarded as a very hard working group
- A majority of the Town sites are connected using a fiber optic network, providing high speed connectivity.
- Department-level IT staff

Weaknesses

- Lack of formalized longer term IT “Strategy”
- Procedures for reporting IT issues are in place, but not consistently followed by customers
- No formal IT project request process or project portfolio management.
- Data is not centralized onto a single data storage system (SAN).
- An obsolete database system (FoxPro) is used and has not been supported by the developer in quite some time.
- Few opportunities for IT training both for Information Technology staff and customers
- A standard remote access system is not used town-wide. A standard VPN access mechanism should be implemented using the existing system (SSL based VPN).
- Internet reliability and bandwidth limitations
- Departments’ inconsistent IT procurement practices
- The Town has not leveraged server virtualization technologies to leverage hardware efficiencies and enhance system availability
- A Disaster Recovery (DR) plan that takes into consideration the Recover Time Objectives and Recovery Point Objects for all of the applications (and data) used by the Town should be developed and tested on a regular basis.

2.3 Significant Recommendations

Below is a summary of Plante Moran's significant recommendations.

1) **IT Governance Process.** We recommend establishing a formalized IT governance process including an IT steering committee. For many municipalities, the management team serves as this committee by allocating a portion of its weekly meeting agenda to technology topics. Topics will include:

    a. IT policy
    b. IT spending priorities
    c. IT standards
    d. Major projects and ROI

    An IT governance model will be included for consideration by the Town during future Visioning and Strategic Planning activities. The cost of this recommendation is nominal, but the benefits to Nantucket will be significant. These benefits will include:

    a. IT policies to allow for full implementation and integration of systems and data
    b. IT standards and protocols to encourage efficiency
    c. Enhanced IT decision making and greater clarity for IT staff
    d. A prioritization and decision making process that includes all stakeholders

2) **Project Management/Project Portfolio Management.** We highly recommend a formal and more structured approach to project management. These disciplines will ensure that projects are completed on time and on budget so that project benefits are realized by the Town. Currently, there is no formal project portfolio management methodology to manage the IT workload. This is a key best practice to an efficient and effective IT organization. The costs of this will be limited to training of key staff; the benefits will extend to every future project.

3) **Project Request Process.** We highly recommend formalizing and consistently communicating a standard process for initiating and reporting on project requests. Information Technology's customers are universally unaware of the current process is for requesting a project, based on the interviews.

    As a part of defining and formalizing the process, make sure the following elements are included:

    a. A clear definition of what constitutes a project.
    b. A clear consistent mechanism such as web-based form, for initiating a project request.
    c. A consistent method and approach for prioritizing project requests. IT governance will play an important role in this process.
    d. A mechanism for reporting information regarding the project request back to the project requestor.
    e. A clean transition between request, approval, and initiation processes.

4) **IT Metrics.** We recommend further defining IT performance measures and service standards, including defining implementation timelines for all projects, and incorporating these into a service level agreement (SLA) with the Town's technology users. We observed little reliance on actual data to drive performance as well as a number of "lingering" projects. A few strategically placed performance standards can improve productivity and IT staff morale.

5) **Internet Connectivity and Cloud Computing.** The Town's unique island geography creates challenges with internet connectivity that its mainland peers will not encounter. The Town's internet connection is supplied by Comcast via its fiber optic cable that is run under the ocean from the mainland to Nantucket. According to staff reports, there have been times when the entire island loses internet connectivity due to the single point of failure with this connection, so the Town is reluctant to host significant applications off-premise (cloud) without a backup plan in place.

   We recommend that this does not deter the Town from evaluating and implementing cloud-based applications when the existing applications near the end of their useful life. This recommendation assumes that the Town conducts due diligence in its software selection process that includes a requirement for the application to be able to operate offline during an internet outage and sync to the cloud server when the connection resumes. This functionality is becoming fairly common in cloud-based applications.

   Cloud-based applications have some advantages that could benefit the Town's IT operations:

   a. Decreased technical administration workload for Town IT staff. There would be potential cost savings associated with reduced demands on IT personnel related to software maintenance and infrastructure.
   b. Reduced capital expenses related to hardware and software licenses.
   c. Typically, there are fewer workstation software installation requirements, potentially lengthening workstation replacement cycles.
   d. The software vendor is responsible for installing the system and for the system's subsequent support. Technical issues can often be immediately isolated to the software client or host application providing the software.
   e. The Town would be able to predict and control costs more accurately, which are based on the negotiated subscription contract.

6) **Workload and Staffing.** The IT & GIS Department is currently staffed by five full-time resources and one part-time resource (see **Appendix A: Current Organizational Structure**). As shown in Section 2.4 Benchmarking Comparisons, the total budgeted positions put the IT department on par with its peers in regards to IT staff as a percentage of total staff.

   This current staffing shortfall leaves the IT department shorthanded when handling its various daily responsibilities, which includes:

   - Help desk
   - Training
   - Software maintenance
   - Hardware maintenance
   - Clerical duties (e.g., contract management and AP processes)

   The IT department and its end users also identified a gap in the help desk's after-hours availability for the departments that operate outside of the 8:00 a.m. to 4:00 p.m. workday. Some of these responsibilities, such as hardware and software maintenance, could be shifted to third parties by evaluating cloud hosting options when the Town's enterprise applications approach the end of their useful life. Additionally, the Town may consider strategically sourcing specific IT functions such as after-hours help desk support to provide an enhanced level of customer service.

We propose that the IT department's highest and best use is to operate more strategically as a business partner rather than simply as a service provider for the Town's departments. The Town should consider creating a Chief Information Officer position responsible for executing the Town's information technology strategic plan as well as oversight of information technology project management. This would shift the IT department's current responsibilities away from the previously listed tasks to instead encompass:

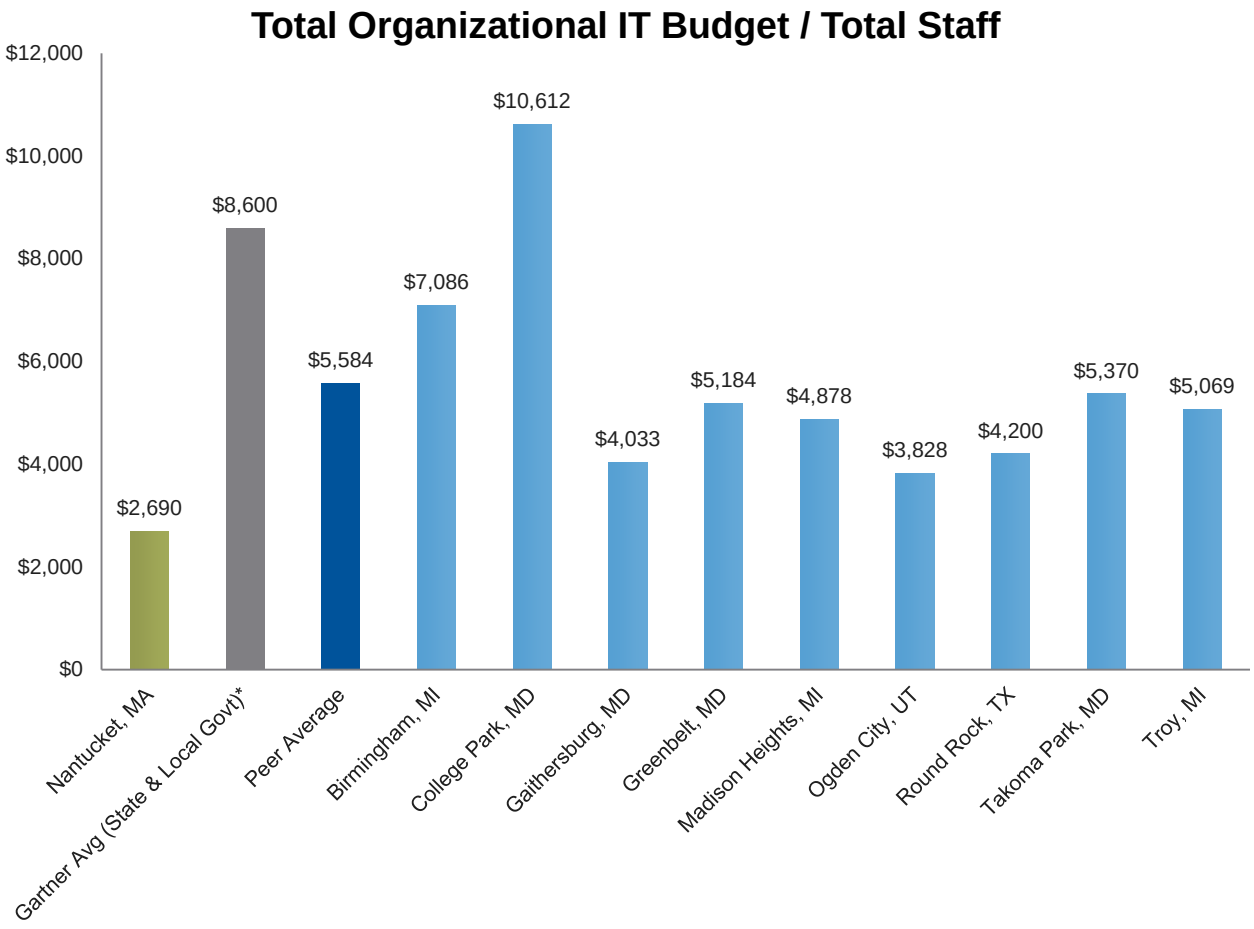
- Project management
- Business analysis
- Vendor management

The resulting organizational structure is shown in **Appendix B**.

2.4 Benchmarking Comparisons

The following section shows how Nantucket compares to its peers in IT spending and staffing. Plante Moran has included data from several comparable cities from our database and supplemented those data with national averages from Gartner's *IT Key Metrics Data (December 2014).* Gartner provides independent research and advice on the business of IT. Several local Towns have been contacted for IT benchmarking data, and that comparative research will be delivered under separate cover.

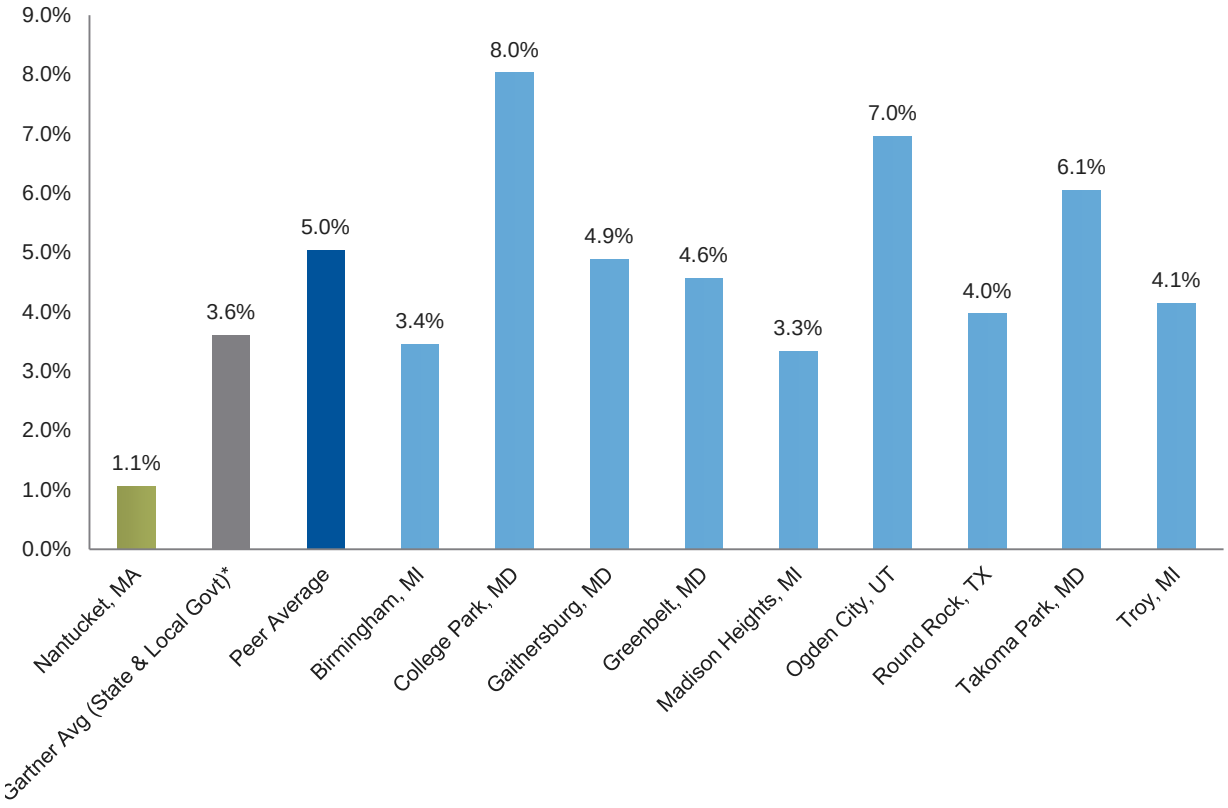
The following graphs display how Nantucket's IT spending and staffing compare to the peer organizations selected for this assessment.



* Source: Gartner IT Key Metrics Data (December 2014)

As shown above, Nantucket's annual IT budget of $2,690 per employee ($3,586 per employee if excluding Public Safety) is significantly lower than its national peers who spend, on average, $5,584 per employee. The IT spending per employee is even lower yet than the 2014 state and local government national average of $8,600 per employee (Source: Gartner IT Key Metrics Data, December 2014). Some of this gap may be attributed to Nantucket's Police Department having its own IT budget. Regardless, Nantucket appears to be far underinvested in IT compared to its peers.

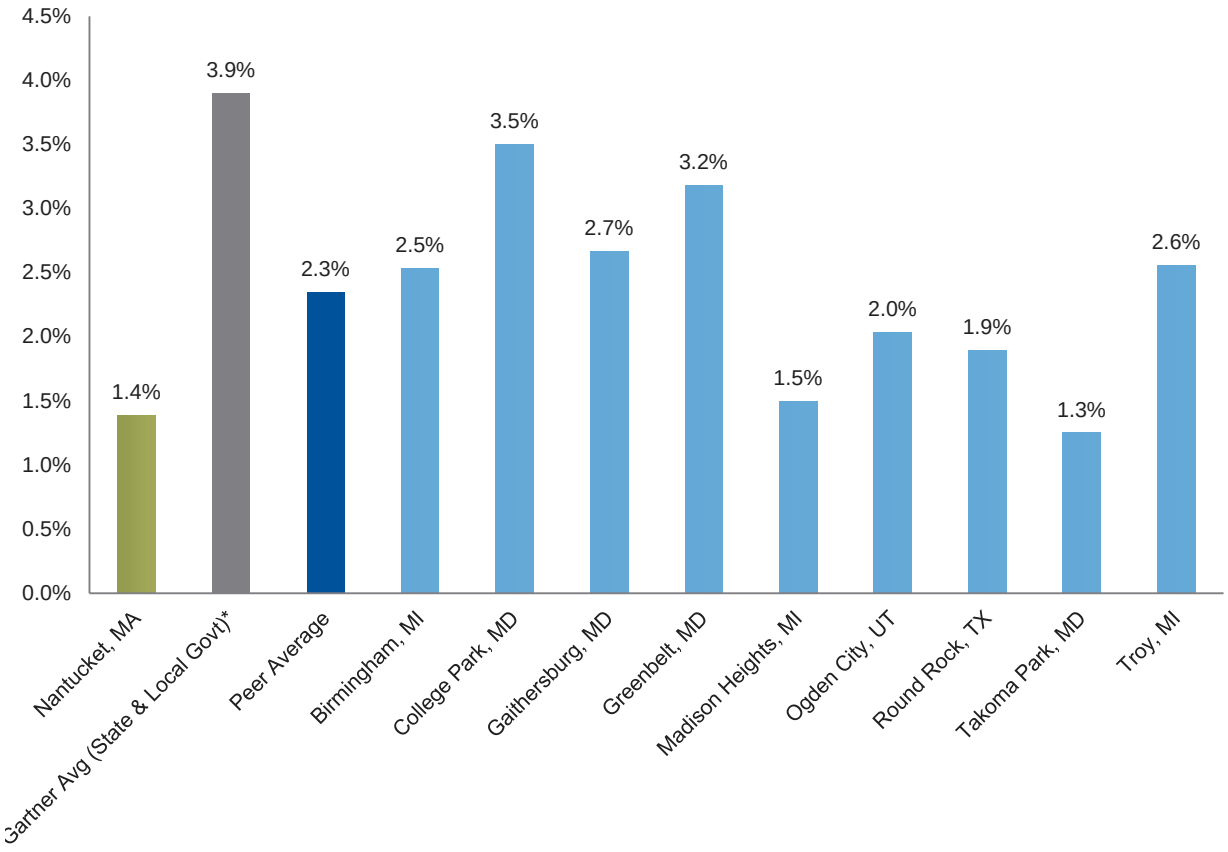
Total Organizational IT Budget / Total Budget (General Fund)



* Source: Gartner IT Key Metrics Data (December 2014)

Nantucket's IT budget is only 1.1% of its general fund budget. This is significantly behind its peers' average of 5.0% and the national average of 3.6% (Source: Gartner IT Key Metrics Data, December 2014). Again, some of this gap may be attributed to Nantucket's Police Department having its own IT budget.

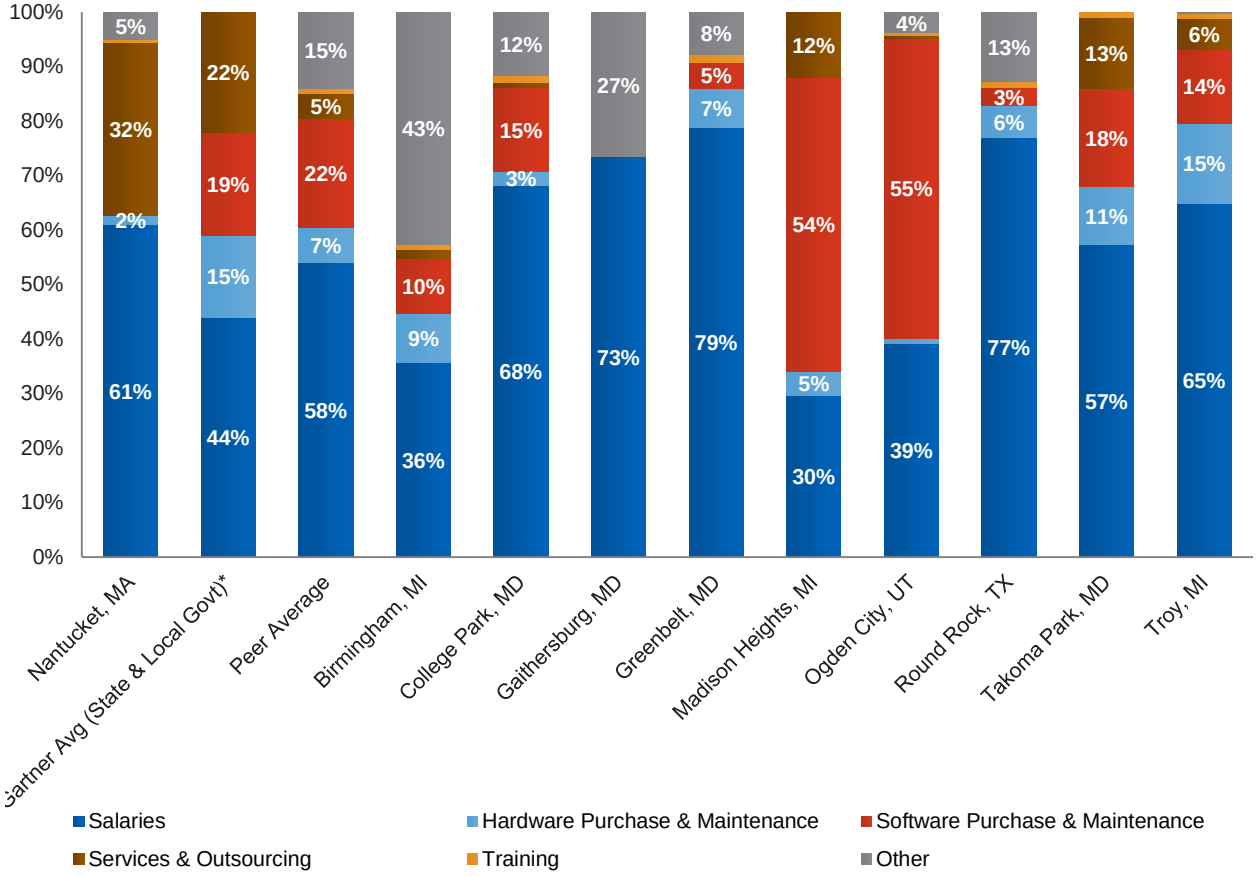
Total Organizational IT Staff / Total Staff



* Source: Gartner IT Key Metrics Data (December 2014)

The above graph compares total IT staff of the organization as compared to the total number of Town staff. Nantucket has a lower percentage of staff members in IT than the peer average by nearly 1%. Nantucket's IT & GIS department is currently staffed with 4.5 FTE. For reference, even after excluding Public Safety from the calculation, the Town would still need 5.5 FTE in IT & GIS to reach the peer average of 2.3% and 9.5 FTE to reach the national average of 3.9% (Source: Gartner IT Key Metrics Data, December 2014).

Central IT Budget Summary



* Source: Gartner IT Key Metrics Data (December 2014)

As shown above, many local government IT departments spend the majority of their operating budget on salaries and personnel costs. Some IT departments outsource some IT functions such as help desk, desktop support, and infrastructure. These costs typically show up as a high percentage of cost in "Services & Outsourcing." Other IT departments may outsource software hosting (SaaS, etc.) which typically shows up as a high percentage of cost in "Software Purchase & Maintenance."

3 Information Technology Assessment

3.1 Overview

The overall goal for implementing technology is not for the technology itself, but rather to enhance existing business processes and customer service within the Town. Technology is intended to enhance these business processes by:

- Making technology users more efficient and effective
- Improving decision-making
- Providing enhanced customer service to both internal and external customers
- Improving access to information
- Reducing costs

In addition, with any technology initiative there are important human resource considerations. As the Town contemplates the recommendations presented in this IT Assessment and subsequent IT Strategic Plan, management will need to consider aspects of people, process and technology for all IT initiatives.

As part of the assessment, each of the assessment areas, components, and sub-components were reviewed and assessed against best practices. Each was assigned a maturity rating ("gap analysis") and risk to the Town relative to the current situation and not performing the suggested remedies. The following scales have been developed to measure the maturity and risk levels for the various IT assessment areas:

Rating	Maturity Description
●●●●●	Best Practice in the Industry
●●●●○	Mature or Fully Implemented
●●●○○	Progressing / Fair
●●○○○	Improvements Identified
●○○○○	Needs Significant Improvement

Risk	Level
Low	■
Moderate	▲
High	⯃

It is rare that a 5-star rating is given in any area, as it represents an absolute best practice in the industry. Plante Moran recommends organizations identify strategic and high value service areas and strive for 4-stars or better in those areas. In addition, depending on an organization's tolerance for risk, Plante Moran recommends moderate or low level of risk. Any high risk areas should be addressed immediately through risk mitigation strategies (e.g., risk transference, elimination of risk, etc.).

The table below provides a summary of maturity and risks associated with the assessment areas identified for the IT review:

Assessment	Maturity	Risk
Organization		
Governance		
Organizational Structure	●●●○○	▲
Organization Benchmarks	●●●○○	■
Succession Planning	●●○○○	■
Staff Compensation	●●●○○	▲
Support		
Staff Complement	●●●●○	■
Staff Development	●●○○○	▲
Job Descriptions	●●●○○	■
Staff Competencies	●●●●○	■
Performance Evaluations	●●●●○	■
Recruiting	●●●○○	■
External Service Providers	●●●○○	■
User Liaisons	●●○○○	■
Steering Committee Role	●●○○○	▲
Service Level Agreements	●●●○○	▲
User Satisfaction		
Responsiveness	●●●●○	■
Effectiveness	●●●○○	■
Communication	●●●○○	▲
IT Leadership		
Technical	●●●○○	■
Business	●●○○○	▲
Administration		
Delivery		
Project Management Approach	●●○○○	▲
SLA Reporting	●●○○○	▲
Problem Reporting	●●○○○	▲
Helpdesk Administration	●●○○○	▲
Network / Workstation Management	●●○○○	▲

Assessment	Maturity	Risk
Software Deployment	●●○○○	▲
Application Development	●●●○○	■
Document Management	●●○○○	■
IT Strategy		
Current Plans	●●○○○	▲
Project Prioritization	●●○○○	▲
Technology Procurement	●●○○○	▲
Budgeting	●●●○○	■
Project Portfolio Management	●●○○○	▲
Business Case Development	●●○○○	▲
Standards	●●●○○	■
Planning Process	●●○○○	▲
Policy		
User Policies & Procedures	●●●○○	■
IT Policies and Procedures	●●○○○	▲
Business Continuity Planning	●●○○○	■
Security Management	●●○○○	▲
Disaster Recovery	●●○○○	⬢
Technology		
Internet		
Remote Access	●●●○○	■
Website & Security	●●●○○	■
Web Strategy	●●●○○	■
Cloud Computing	●●○○○	■
Data		
Data Backup	●●●○○	■
Network (LAN/WAN)		
Servers/Storage	●●●○○	■
NOS	●●○○○	▲
Network	●●●○○	▲
Applications		
Enterprise Software Applications	●●●○○	■
Line of Business Applications	●●●○○	▲

Assessment	Maturity	Risk
Reporting/Analytics	●●○○○	
Integration	●●○○○	
End-User Computing		
Workstation Strategy	●●●○○	
Printer Strategy	●●●○○	
Office Automation	●●○○○	

3.2 Organization

3.2.1 Governance

	Maturity	Risk
3.2.1.1 Organizational Structure	●●●○○	▲

Observations

- The Information Technology & GIS Department has four dedicated full-time employees and one part-time employee – an Information Systems Administrator (manager), two Information Systems Technicians, a Geographic Information Systems Technician, and a part-time Information Systems Technician. There is an additional vacant position for a third full-time Information Systems Technician.
- All IT & GIS Department "technician" roles report up to the Information Systems Administrator.
- According to their job descriptions, effective in April 2005, the IT Technicians are responsible for supporting the ongoing operation of the town-wide information management and communication systems, including but not limited to desktop computers, system software, hardware, and peripherals. These job descriptions appear to be accurate relative to current responsibilities.
- In general, the two IT Technicians have separated their duties so that one technician mainly works on software support, which includes Active Directory, Exchange, and other software. The second technician mainly works on hardware support and field work. This separation of duties has shown to be mostly effective from an efficiency perspective, but it may inadvertently lead to burning out individuals by not providing variety of tasks and location.
- Since AP has decentralized the Town's invoice payment process, the IT Technicians have become responsible for paying vendor invoices. This is not necessarily the highest and best use of their talent.
- Please refer to **Appendix A** for a diagram of the IT & GIS Department's current organizational structure.

Opportunities

- The Town may want to consider using the recently hired IT Technician role to focus on IT vendor relationship management and clerical duties. This role would be responsible for answering calls for the help desk, logging tickets, managing vendor contracts, and paying vendor invoices. This would free up the current IT Technicians to work on higher value activities such as project management and business analysis. It would also enable the IT Technicians to have more face-to-face collaboration opportunities with their end-user departments.
- When comparing the number of staff in Nantucket's IT & GIS Department with the total number of Town staff, Nantucket has a lower percentage of staff members in IT than the peer average by nearly 1%. Nantucket's IT & GIS department is currently staffed with 4.5 FTE. For reference, even after excluding Public Safety from the calculation, the Town would still need 5.5 FTE in IT & GIS to reach the peer average of 2.3% and 9.5 FTE to reach the national average of 3.9% (Source: Gartner IT Key Metrics Data, December 2014). Please see **Section 2.4 Benchmarking Comparisons** for additional details.
- Please refer to **Appendix B** for a diagram of the expected future organizational structure and a brief description of role evolution.

3.2.1.2 Organization Benchmarks	Maturity	Risk
	●●●○○	

Observations

- The Town is very centralized for its delivery of IT services, leaving some customers wanting for a more immediate response and personalized service.

Opportunities

- Consider aligning specific IT staff to the departments that require the greatest amount of technology support. Develop service level agreements with those departments to establish and management expectations.

3.2.1.3 Succession Planning	Maturity	Risk
	●●○○○	

Observations

- There is no formal succession planning program in place, but the IT & GIS Department has not experienced any recent turnover.

Opportunities

- Consider formalizing a succession plan that ensures consistent, high quality service for each role in IT & GIS.

3.2.1.4 Staff Compensation	Maturity	Risk
	●●●○○	▲

Observations

- The IT staff members are eligible to receive annual cost of living compensation adjustments.
- The IT staff did not specifically communicate any dissatisfaction with current compensation; however, they were not specifically asked for comments. Further discussion may be necessary to determine if compensation is an issue.

Opportunities

- Continue to evaluate staff salaries to ensure alignment with the cost of living on Nantucket.
- Consider benchmarking IT staff compensation with peer communities.
- The Town may consider offering monetary incentives for IT staff attaining relevant certifications.

3.2.2 Support

3.2.2.1 Staff Complement	Maturity	Risk
	●●●●○	

Observations

- Due to the small size of the IT & GIS Department, the staff members overlap on several tasks and “wear many hats.” Therefore, they are typically able to provide backup and support for each other in times of absence. In day-to-day activities,

3.2.2.1 Staff Complement	Maturity	Risk
	●●●●○	

however, the staff's roles are more strictly defined, for instance, hardware support versus software support.

- The staff members appear to have complementary skills and, together, are able to cover the broad range of responsibilities that are required within the department.

Opportunities

- Continue to ensure that the IT & GIS Department's staff members have skill sets that cover the wide range of tasks that are required to serve the Town's departments by offering opportunities for external training.
- Continue to provide IT staff members with opportunities to expand their role so that they do not burn out.

3.2.2.2 Staff Development	Maturity	Risk
	●●○○○	

Observations

- IT staff members would like to seek additional technology certifications.
- Training budgets are not well understood and taken advantage of. Often, staff will conduct research and learn independently.

Opportunities

- The opportunity for training should be offered to staff in both technical and non-technical courses.
- Invest in staff development, both through continued education of IT staff and training sessions administered to Town staff on the software that they use on a daily basis.

3.2.2.3 Job Descriptions	Maturity	Risk
	●●●○○	

Observations

- Job descriptions exist for all IT & GIS staff roles. These job descriptions are all about 10 years old, but they appear to be accurate to the staff's current real world duties.

Opportunities

- Continue to monitor the job descriptions and update job duties as necessary.
- The Town should consider creating a Chief Information Officer responsible for executing the Town's information technology strategic plan as well as oversight of information technology project management.

3.2.2.4 Staff Competencies	Maturity	Risk
	●●●●○	

Observations

- Staff are competent in the roles that they are expected to provide. They are willing and able to provide a high level of service to their customers.

Opportunities

- Continue to provide staff with opportunities for training to ensure that their skill set remains relevant to the Town and department.

3.2.2.5 Performance Evaluations	Maturity	Risk
	●●●●○	

Observations

- Formal performance reviews are not performed

Opportunities

- In general, the IT staff were regarded as highly performing by other staff members in the Town. In the event that this trend reverses, evaluate opportunities to provide staff with constructive, performance-based feedback within the union guidelines.

3.2.2.6 Recruiting	Maturity	Risk
	●●●○○	

Observations

- Recruiting can be challenging for the IT department because of Nantucket's geographic location and limited local talent pool. It can be difficult to recruit talented individuals to relocate to Nantucket because of the island's remote location and high cost of living.
- The IT & GIS Department is currently using a tailored work arrangement for some staff members so that they can live off-island and work remotely one or more days during the week. This appears to have a positive effect on recruiting and staff retention without compromising customer service.

Opportunities

- Continue to leverage the use of tailored work arrangements for staff so that off-island resources can be used to provide an agreeable combination of onsite and remote assistance.

3.2.2.7 External Service Providers	Maturity	Risk
	●●●○○	

Observations

- Using external service providers can be difficult because of Nantucket's geographic location. Typically, external service providers must travel to Nantucket from the mainland. This builds in extra time, cost, and complexity to the Town's

3.2.2.7 External Service Providers	Maturity	Risk
	●●●○○	

relationships with third parties. As such, the Town (and IT) generally has a lower use of external service providers that its mainland peers.

Opportunities

- The IT department currently uses and must continue to use external service providers to supplement its in-house talent. Considering this, the IT department should remain mindful of which tasks can be completed off-island without compromising the quality of customer service and IT delivery.

3.2.2.8 User Liaisons	Maturity	Risk
	●●○○○	

Observations

- IT staffing at the Town is centralized in IT department, and the department does not have a formal liaison program.

Opportunities

- Consider creating a formal IT liaison program, led by the IT Department, to create an ongoing, two-way discussion between IT and user departments. Typically, organizations identify heavy technology users, application "owners," and/or process "owners" as IT liaisons.
- IT liaison programs provide "Super users" with IT vision/direction, training, and access to expanded technologies.
- Liaison programs would provide IT with an extension of its central staff, an opportunity to achieve greater standardization, buy-in, understanding, ongoing feedback regarding customer satisfaction, and input regarding IT policy matters.

3.2.2.9 Steering Committee Role	Maturity	Risk
	●●○○○	

Observations

- The Town does not currently have a formal IT Steering Committee.

Opportunities

- An IT governance model will be provided with the upcoming Plante Moran IT Visioning activities that describes the construction of an IT Steering Committee and its important role in IT decision making.
- Assist in town wide strategic planning and operating goals of the Board.

3.2.2.10 Service Level Agreements	Maturity ●●●○○	Risk

Observations

- IT has documented the correct process for reporting and prioritizing technology issues. The department end-users appear to be accepting this process.
- There do not appear to be specific, quantitative service level agreements between IT and its end-user departments. Left unchecked, this could potentially skew the departments' perception of issue severity, resulting in the expectation that comparatively low priority issues be dealt with immediately.

Opportunities

- Create formal service level agreements to be signed off on by Town department heads and technology end users. This will reinforce the expectations of the services that IT provides as well as the IT issue resolution process.
- Service level agreements can help IT understand and focus on the topics that are most important to its customers.

3.2.3 User Satisfaction

3.2.3.1 Responsiveness	Maturity ●●●●○	Risk

Observations

- Overall, users were very satisfied with the responsiveness of Information Technology.
- User acknowledged that problems are resolved in an appropriate timeframe and that IT staff are available during the hours when they need assistance.
- Some department end users reported a gap in off-hour support since the IT department operates during normal business hours.

Opportunities

- Continue to focus on delivering excellent customer service, but remain wary of issue severity and service expectations.
- Consider adjusting IT staff hours or contracting with a third party vendor to provide help desk support during off-hours.

3.2.3.2 Effectiveness	Maturity ●●●○○	Risk

Observations

- Users noted via the departmental interviews and user surveys that their interactions with the IT Department are typically positive and effective.
- Users noted the technical/desktop support is effective, but business analyst support for key enterprise applications is a challenge
- Users also mentioned that they are always informed when a problem cannot be resolved within the promised time. In fact, 100% of respondents to the End User Survey indicated this to be true.
- IT response is fairly predictable because of the centralized ticket logging process through Spiceworks.

3.2.3.2 Effectiveness	Maturity	Risk
	●●●○○	

- Although the majority of department technology users commented that IT is "customer service oriented" (94% positive response in the End User Survey), many department users commented that the IT department operates more as a support function than a business partner. The sense is that there is minimal collaboration with employees, and IT's focus is oriented towards hardware rather than software.

Opportunities

- IT can increase its effectiveness to the Town's departments by working with the departments to understand their business functions and implement software that will improve processes holistically versus the current piecemeal approach.
- Ensure that the IT staff is provided with up-to-date training on all relevant applications that are used within the Town.

3.2.3.3 Communication	Maturity	Risk
	●●●○○	

Observations

- It was mentioned in both staff interviews and the end user survey that the IT decision making process lacks transparency.
- Users noted via the departmental interviews and user surveys that they are unaware of the organizations long-range technology vision and plans for implementation including the future direction of technology.
- There are occasional issues with communication between IT staff and end users regarding the estimated time of completion for issue resolution.
- Users noted frustration with communication disconnects between Town IT and 'external' IT departments such as Airport and Police IT, especially in regard to planning for emergency management situations.

Opportunities

- Focus on communicating the status of requests and informing users when their issue is resolved. Strengthening this will help alleviate many of the concerns that end users have about IT.
- Establish a regular Town IT resource meeting for Town IT resources (Town IT, Police, Airport, and Water) to collaborate/discuss common challenges.

3.2.4 IT Leadership

	Maturity	Risk
3.2.4.1 Technical	●●●○○	■

Observations

- The manager is comfortable operating in a technical IT environment. Moving forward, the manager must be allowed and encouraged to attend continuing professional education events to remain abreast of the latest information technology trends that are applicable to the Town's IT landscape specifically related to infrastructure, applications, and email.

Opportunities

- Provide the manager with opportunities to explore new technologies for the Town.
- Encourage sound technical decisions to be made, taking into consideration the future, cost, and adoption of the technologies being deployed.

	Maturity	Risk
3.2.4.2 Business	●●○○○	▲

Observations

- The manager is capable of running the department effectively, but she is required to frequently respond to end users' technology issues. This takes time away from her higher-level strategic planning priorities.

Opportunities

- Situate the manager position such that it is better positioned to respond to strategic priorities instead of technology issues.

3.3 Administration

3.3.1 Delivery

	Maturity	Risk
3.3.1.1 Project Management Approach	●●○○○	▲

Observations

- IT maintenance projects are generally scheduled and communicated to end users.
- Project management activities are not clearly communicated, which results in projects stagnating and others not being prioritized at all leaving departments unsure of the status of their projects.
- The level of Town departmental participation in IT project management is limited. It was noted that there are times IT is tasked with managing an implementation without having a large presence from the 'process owning department' during the initial system selection process.

Opportunities

- Ensure that projects are properly scoped so that timelines are set correctly.
- Refine the Town's Project Methodology detailing the steps for initiating projects, having projects approved, prioritized, tracked and ultimately implemented.
- Ensure that IT is involved with Town departmental decision making that will impact IT's workload.

	Maturity	Risk
3.3.1.2 SLA Reporting	●●○○○	▲

Observations

- There are no Service Level Agreements formalized with the departments.

Opportunities

- A minimal service level agreement or "partnership agreement" should be formally executed with the individual departments to help to clarify the departmental responsibilities versus IT or an external support organization. A sample Partnership agreement has been included in **Appendix F: Service Level Metrics.**
- Track and report on IT metrics specific to the agreed upon service levels to the department's stakeholders. This can help to substantiate the value of the department.

	Maturity	Risk
3.3.1.3 Problem Reporting	●●○○○	▲

Observations

- Information Technology utilizes Spiceworks for the Town's IT Help Desk/ticketing system.
- It was noted that documented procedures for reporting IT issues are not consistently followed by customers as some users still log their issues via phone/informally.

Opportunities

- Greater enforcement of the issue reporting process will assist IT staff in better prioritizing issues.

	Maturity	Risk
3.3.1.4 Helpdesk Administration	●●○○○	▲

Observations

- Technology-related issues are reported by end-users through Spiceworks, the IT Department's help desk and service management software.
- All IT Technicians are responsible for working on help desk tickets. These tickets get divided up between staff based on type, for instance, hardware vs. software.
- The IT staff sometimes do not receive feedback on whether their "fix" for an issue has resolved the issue to the user's satisfaction or not. There is a need for a more consistent feedback loop between IT and its customers.

Opportunities

- Create clear guidelines for technology users for responsibilities, goals and procedures related to Help Desk requests. Ensure that technology users take accountability for feedback regarding the resolution of help desk issues.
- Consider training the newly hired resource to be dedicated to triaging and prioritizing tickets. This person could also be responsible for clerical duties in the IT department.

3.3.1.5 Network / Workstation Management	Maturity ●●○○○	Risk ▲

Observations

- There are no network, server or workstation management tools in use.

Opportunities

- Proactively monitor the server, storage and network infrastructure for performance and availability using a mid-small class software application suite such as PRTG, Solarwinds, or ManageEngines. Leverage the monitoring capabilities of the existing network, server and storage equipment by minimally configuring these devices for SNMP-based protocols. The devices and systems should report performance and availability information to a centralized system (Solarwinds Orion) that is capable of providing proactive alerting, pre-failure altering and historical trending and utilization information.
- As an alternate to configuring and maintain a monitoring system, the Town may choose to utilize an external vendor to provide these services. Such vendor would be responsible for the configuration of proactive monitoring and altering of IT staff of performance or availability issues.

3.3.1.6 Software Deployment	Maturity ●●○○○	Risk ▲

Observations

- For patch management, Windows Services Update Server (WSUS) is used to push patches to Windows based servers and workstations.
- For antivirus (AV), a Symantec Endpoint Protection console is used to monitor the status of AV and malware protection of the system and also to push out updated virus definitions.
- There are no tools to push updates for non-Microsoft products such as Adobe Reader, Chrome etc.

Opportunities

- If the Town implements a workstation management tool, software deployment functionality and a patch management functionality should be two key considerations given during the tool selection process. Given the size of the current environment, the Town may benefit from a software deployment tool such as PDQ Deploy. PDQ Deploy is a software deployment tool that allows administrators to silently install most applications and/or patches. This tool integrates with Active Directory and Spiceworks allowing installation of multiple computers simultaneously.

3.3.1.7 Application Development	Maturity ●●●○○	Risk ■

Observations

- The IT Department does not develop applications in-house.

Opportunities

3.3.1.7 Application Development	Maturity ●●●○○	Risk ■

- Continue to use commercially available software to meet the Town's needs so that the IT Department is not required to develop custom software.

3.3.1.8 Document Management	Maturity ●●○○○	Risk ■

Observations

- The IT staff mentioned that many IT-related documents are not stored consistently. When documents are created, they are typically stored on shared drives. Naming conventions must be used so that documents can be identified and version history is retained.

Opportunities

- Consider using document management software (e.g. SharePoint) that supports versioning and version control. This can simplify the storage and access of IT documentation that is updated frequently.

3.3.2 IT Strategy

3.3.2.1 Current Plans	Maturity ●●○○○	Risk ▲

Observations

- IT has developed a 2014-2016 Strategic Plan that contains a description of departmental challenges, the departmental vision and short term goals for the department to achieve over the next few years.

Opportunities

- A detailed project portfolio will be developed and prioritized by Plante Moran as part of this engagement.

3.3.2.2 Project Prioritization	Maturity ●●○○○	Risk ▲

Observations

- Users noted via the departmental interviews and user surveys that there isn't really a clear process for how technology related projects are identified, reviewed, prioritized and executed.
- Projects are not formally being prioritized leaving departments unsure of the status of their projects.

Opportunities

- Refine the Town's Project Methodology detailing the steps for initiating projects and having projects prioritized.
- Work to keep users informed on current IT projects.

3.3.2.3 Technology Procurement	Maturity	Risk
	●●○○○	▲

Observations

- The IT purchasing process is defined, but not always enforced. IT related purchases are often times made at the department level without adhering to technical requirements and only reach IT after purchases are made and have to be supported
- The Town has a procurement governance committee and 11 certified public procurement officers across the organization.

Opportunities

- Clarify the process to create uniformity around technology purchases. Include different processes by anticipated cost and develop clear technical requirements.
- Ensure that technology procurements are in alignment with the strategic direction of the Information Technology Department.
- Ensure that IT has 'a seat' at the Town Procurement governance committee meetings

3.3.2.4 Budgeting	Maturity	Risk
	●●●○○	■

Observations

- The IS Administrator is responsible for budgeting all expenses for the IT & GIS Department. This includes identifying IT projects and completing budget requests for projects. The business cases for capital budget requests are submitted to the Board of Selectman for approval.
- The IT & GIS Department's capital budget has been estimated out 10 years in the future.
- Many department technology users believe that the technology budget is too low to meet the needs of the Town; however, they also noted via the departmental interviews and user surveys that the process for developing and reviewing annual technology budgets is unknown.
- Nantucket's IT budget is only 1.1% of its general fund budget. This is significantly behind its peers' average of 5.0% and the national average of 3.6% (Source: Gartner IT Key Metrics Data, December 2014).

Opportunities

- Create and utilize a 5 year budget projection, incorporating recurring and one time expenditures so resources can be budgeted to address these needs.
- An IT Plan, updated annually by the IT Steering Committee, should serve as the basis for budget requests to Town management and board.
- Continue to refine the Town decision making process by considering the return on investment for technology items.
- Provide the Town Board with the IT Plan and provide periodic updates as an additional accountability mechanism to evaluate IT investments.

3.3.2.5 Project Portfolio Management	Maturity	Risk
	●●○○○	▲

Observations

- The Town does not currently have a formal mechanism to manage its IT project portfolio. Currently, the IT Helpdesk system, Spiceworks is being utilized to document open and closed projects.

Opportunities

- Use the governance template, to be provided by Plante Moran, to introduce the portfolio management tools that are part of the process. Additionally, investment into a fully functional project tracking tool may be a good investment to track costs, time, and breadth of projects. Ideally, the project tracking tool(s) should be adopted by all other Town departments to manage projects.
- Additional recommendations are detailed in **Section 2.3: Significant Recommendations.**

3.3.2.6 Business Case Development	Maturity	Risk
	●●○○○	▲

Observations

- We did not identify any "Return on Investment" or "Total Cost of Ownership" studies being performed on projects.

Opportunities

- For more accurate, long term budgeting purposes, a business case for each project should be developed that includes a "Return on Investment" or "Total Cost of Ownership" component. This will work to give the organization a deeper understanding of the underlying costs associated with a project, such as hardware and support costs.

3.3.2.7 Standards	Maturity	Risk
	●●●●○	■

Observations

- The Town has defined the following standards for its IT environment:
  - Workstation operating system: Primarily Windows 7 (95% of the systems)
  - Server operating system: Windows 2008R2 and Windows 2012R2
  - Network equipment: Dell Computer Systems
  - Phone system: ShoreTel
  - Workstation hardware Dell Computer Systems
  - Printers: Third party managed Multifunction Devices

Opportunities

- There are no opportunities identified for this section.

3.3.2.8 Planning Process	Maturity	Risk
	●●○○○	▲

Observations

- IT has asked to take the lead on developing a departmental strategic plan for 2014-2016 to build upon the FY11-14 plan.
- It was reported that the plan is not widely shared or published for Town departmental review.
- The IT Strategic Plan is not directly tied to the Town budget process.
- An output of our engagement with the Town is an IT Project Portfolio which will act as the starting point for the IT planning process.

Opportunities

- Establish an IT governance committee that assists in developing the plan, identify projects and prioritizing any upcoming technology initiatives. Ensure that a process for refreshing the existing IT Strategic Plan and developed project portfolio is put in place when implementing IT governance.

3.3.3 Policy

3.3.3.1 User Policies and Procedures	Maturity	Risk
	●●●○○	■

Observations

- The Town has IT user policies in place for:
  - Computer Use, updated Aug 2013
  - Social Media, updated January 2013
- The IT user policies appear to be relevant for modern day computing.

Opportunities

- Ensure that policies remain updated and relevant. Evaluate policies on an annual basis or more frequently, if necessary.
- Additional policy topics and descriptions are included in **Appendix E: Sample Policies**.

3.3.3.2 IT Policies and Procedures	Maturity	Risk
	●●○○○	▲

Observations

- There are a limited number of formal / written IT policies or procedures at this time. Current IT activities and procedures are performed based on an informal understanding of IT processes that may not reflect management approved practices. Transitioning to new staff could be more challenging as a result of a lack of documentation.
- A weekly or monthly checklist on the local server(s) health, status, or recommendations does not exist.
- User accounts are not audited on a regular basis.
- It does not appear that best-practice password policies are in place.
- Systems documentation is not up to date and does not accurately reflect the current environment.
- There is no defined maintenance window for IT systems.

	Maturity	Risk
3.3.3.2 IT Policies and Procedures	●●○○○	▲

- There is no change management policy in place.

Opportunities

- Formal administrative policies and procedures should be established to define and communicate management-approved IT practices and procedures. Policies and procedures should be reviewed and assessed annually, at minimum, to identify required modifications to current policies. Below is a summary of recommended IT policies and procedures:
  - Acceptable-use policies – Policies that define the appropriate use of the organization's technology including hardware, software, networks, and telecommunications. This is currently in place and must continue to be updated.
  - User administration policies – Policies that define the administration of IT access privileges for new employees, employee access privilege changes, and employee separation.
  - User account access review procedure – Administrative procedures to periodically review and confirm user access privileges granted to individual user accounts or user access matrices for job roles based privilege assignment.
  - Stronger user account password policies – System-defined settings that establish controls over the authentication and authorization of access to Town data resources. For instance, the Town may consider implementing enforcing longer passwords (beyond the current 8 character minimum) or "passphrases."
  - Please refer to **Appendix E** for a comprehensive listing of recommended policies.
- Apply the necessary resources to creating usable documentation. This investment is critical considering much of the information regarding the IT systems at the Town is stored with individual employees. The documentation must be stored in a secure location on the network that is accessible only to authorized personnel.
- Establish and publish a formal system maintenance window where scheduled maintenance and operations can be performed.
- Establish a formalized change management process. The change process should minimally include the use of standardized forms that record a description of the proposed change, impacted systems, back out plan, calculated risk and required approvals. Additionally, the proposed changes should be reviewed on a weekly basis to assess if the change may potentially impact member services or other processing functions. Please refer to **Appendix J** for a recommended Change Management process.

3.3.3.3 Security Management	Maturity	Risk
	●●○○○	▲

Observations

- Physical access of certain Town facilitates are more secure than others. The Town does not have a standard access badge for all town facilities/employees.
- A Watchguard firewall is used to provide network perimeter protection. This firewall is also used to terminate the site-to-site VPNs as well.
- There is no IDS/IPS protection on the network.
- The town has redundant internet connections, but the failure from primary to secondary internet connection is a manual task.
- There is no penetration testing (internal or external) done on a regular basis.

Opportunities

- The Town should conduct regular health checks on its systems. Please see **Appendix H** for a sample checklist.
- To enhance the overall security of the network, the Town should consider the implementation of an Intrusion Detection and Intrusion Prevention System (IDS/IPS) System. In addition to the implementation, proper training for current IT personnel should be provided to ensure the alerts are properly interpreted and remediated on. Alternatively, the Town should consider security monitoring as a service. The advantage of security monitoring as a services provides 24x7 monitoring, quicker reaction and resolution and free up the Town's IT resources to focus on other core competencies.
- With the dependency on the internet, the current Watchguard firewall is a single point of failure. The Town should consider implementing the firewall and IDS/IPS in a high availability configuration to prevent a single point of failure. In addition, the Town should configure the firewall for automatic failover for internet connectivity.
- The Town should consider conducting an internal and external network penetration test to ensure that all critical resources are adequately protected from unauthorized access.

3.3.3.4 Business Continuity Planning / Disaster Recovery	Maturity	Risk
	●●○○○	⬢

Observations

- There is no Disaster Recovery Plan (DRP) in place as it relates to IT systems. There are Business Continuity Plans (BCP) for other aspects of the business.
- Offsite (cloud based) data back is the primary source for recovery in the event of a major disaster at the data center.

Opportunities

- The Town should develop and periodically test an appropriate DRP/BCP strategy. This process should begin by identifying various business goals critical to the Town. Using the DRP/BCP as a blueprint, the network, server and other IT resources should be evaluated in terms of the DRP and modified accordingly so as to meet the objectives of the DRP/BCP. The established business goals would determine the need to create a backup or live data center, move services to a hosted location, or simply remain status quo. The Recovery Time Objectives

3.3.3.4 Business Continuity Planning / Disaster Recovery	Maturity	Risk
	●●○○○	

(RTO) and Recovery Point Objectives (RPO) would also determine the criticality of the infrastructure that needs to be planned.

- The development of a BCP/DRP should be considered a long term project as it requires considerable planning and implementation; however, efforts can begin with consideration of a server at an off-island location as DR server. Please refer to **Appendix I** for a detailed process.

3.4 Technology

3.4.1 Internet

3.4.1.1 Remote Access	Maturity	Risk
	●●○○○	

Observations

- Tablets have been issues to key Town staff who work in the field. However the ability of the user to access key Town enterprise systems via the Tablet is limited.
- GoToMyPC is utilized in some departments for remote access
- SSL based remote access is available to provide secure remote access.

- Ensure all town departments are aware of ability to leverage Go To My PC as a remote access tool.

3.4.1.2 Website and Security	Maturity	Risk
	●●●○○	

Observations

- Some users reported that the Websense internet filtering tool was overly restrictive and prohibited them from completing tasks required to do their job.
- A cloud based content management filter (Websense) is used.
- The Town uses Microsoft SQL and Microsoft FoxPro databases

Opportunities

- The FoxPro database is obsolete and is no longer supported. The use of unsupported products can increase the risk to the organization by exposing data due to unpatched vulnerabilities.

	Maturity	Risk
3.4.1.3 Web Strategy	●●●○○	

Observations

- The Town has a full time social media staff resource responsible for managing the Town's Web and Social media presence resources.

Opportunities

- Proactively garner additional Town Departmental input on their specific vision for the use of social media in order to provide more direction to the Town's social media staff.

	Maturity	Risk
3.4.1.4 Cloud Computing	●●○○○	

Observations

- The Town has been slow to adopt cloud software because of its unique geographic location. All internet connections for the Town come via Comcast's fiber optic cable that is run beneath the ocean from the mainland. According to staff reports, there have been times when the entire island loses internet connectivity due to the single point of failure with this connection, so the Town is reluctant to move significant applications to the cloud without a backup plan in place.

Opportunities

- We recommend that existing connectivity issues does not deter the Town from evaluating and implementing cloud-based solutions when the existing enterprise business applications near the end of their useful life. For system selection engagements where cloud solutions are being considered the Town must include specific requirements for the application to be able to operate offline during an internet outage and sync to the cloud server when the connection resumes.

3.4.2 Data

	Maturity	Risk
3.4.2.1 Data Backup	●●●○○	

Observations

- There is no centralized SAN where all of the critical data is centralized. Data is stored on individual servers.
- Data from the servers is backed up to an on premise Barracuda appliance and during no peak hours is replicated to an offsite facility.
- Data is retained for up to 3 years.
- There is defined test restores; restores are done on an as needed basis. The current system is not capable of performing bare metal restores.
- A complete backup is about 9 TB. Only incremental changes are backed up on a

	Maturity	Risk
3.4.2.1 Data Backup	●●●○○	

daily basis.

Opportunities

- To expedite the restoration of a system in the event of a complete system (server) failure, the Town should consider implementing base metal restore capabilities.

3.4.3 Network

	Maturity	Risk
3.4.3.1 Servers/Storage	●●●○○	

Observations

- There are a total of 22 servers in use at the data center. All of the servers used are physical servers. The primary manufacturer of these servers is Dell Computer Systems (91%).
- On an average, the refresh cycle for the servers is between 4-5 years. There are only 2 servers that have been reported to older than 5 years. Approximately 86% of the servers are less than 5 years old.
- Server virtualization has not been implemented. Also, based on our review, it was noted that this technology is not being currently considered.
- A/B cording on the servers is used where possible.
- Majority of the servers are housed at the Town's data center. 7 servers are located at 4 remote sites.

Opportunities

- Though not considered as a data disk, the implementation of virtual server technology is a standard that many organization have taken advantage of improve reliability, resiliency and availability of servers. Server virtualization technology along with a centralized storage system should be implemented. When deployed properly, virtualization can increase the availability of the system. Virtualization technology has improved over the past couple of years and as the time comes to update / replace the current servers, the Town should consider implementing a virtualized environment.
- With server virtualization implemented along with Distributed Resource Scheduler (DRS) capabilities, the number of servers can be reduced, availability increased and warranty requirements reduced to potentially save on maintenance costs, but more importantly enhance system availability.
- All of the critical data for the Town should be stored centrally on the SAN. This allows for better management and administration of both data and storage policies/requirements. In addition, this allows the Town to decouple the storage from the CPU and upgrade them independently, depending on needs.

	Maturity	Risk
3.4.3.2 NOS	●●○○○	▲

Observations

- The majority of the servers (77%) operate on Microsoft Windows 2008R2 operating system and the remaining 23% operate using Microsoft Windows 2012R2 operating system.
- The servers are not hardened to minimize the number of services necessary to operate the system. By default, all default services run on the servers.
- Host based firewall are enabled and configured to deny all traffic except that which has been explicitly permitted or permit all traffic except that has been explicitly forbidden.

Opportunities

- Microsoft's Mainstream support for Windows 2008R2 has ended as of 1/13/15. Microsoft will not be releasing any patch updates to address any vulnerabilities. Vulnerabilities can increase the risk exposure to the organization.

	Maturity	Risk
3.4.3.3 Network	●●●○○	▲

Observations

- There are a total of 17 sites on the Town's network. Seven of these sites are connected by a fiber network and the remaining ten sites are connected using site-to-site Virtual Private Network (VPN) technology across the public internet.
- The fiber network is based on town owned private fiber (5 sites) and leased fiber network (4 sites). The remaining 8 sites are connected across the public internet using VPN technology. The fiber connected sites are connected using 1 Gbps Ethernet and the VPN sites connect at available speeds at each site. However, the throughput and performance of the VPN sites depend on variable not in the control of IT.
- The IT department has moved all fiber endpoints to the newer 4 Fairgrounds building. DPW and Natural Resources locations are not connected to Town by fiber and experience regular downtime.
- The Town primary uses equipment manufactured by Dell Computer Systems. Alcatel Lucent switches are also used at the data center. There is some redundancy in network core equipment. It was noted that there are plans to upgrade the network equipment.
- The network is primary used for data, voice and video streaming traffic.
- For the Voice over IP (VoIP) traffic, there is no Quality of Service (QoS) configured on the Local Area Network (LAN) or Wide Area Network (WAN)
- A centralized controller based wireless LAN (WLAN) has been implemented. The WLAN is configured for both density and coverage. Encryption is used on the WLAN traffic to ensure protection of the data being transmitted.
- There are critical components of the network core environment that are not under a warranty program that will replace failed components in a timely manner. The Town does carry and inventory of spares for other portions of the network.

	Maturity	Risk
3.4.3.3 Network	●●●○○	▲

- A Shortel VoIP system is used at the majority of the locations. There are approximately 225 handsets on the Town's telecom network. About 85% of the handsets are powered using Power over Ethernet (PoE) switch ports and the remainder of the handset use midspan PoE ports.
- There are some sites that use Centrix (phone company provided) based connectivity.
- The Shortel system is approximately 5 years old.
- Remote sites have survivable gateways to ensure functionality in the event of a WAN outage.
- The voicemail system has approximately 150 voicemail boxes; the voicemail system in not integrated with email.
- There is no E911 functionality for the current phone system.

Opportunities

- The Town should implement QoS on the WAN to ensure voice traffic receive higher priority over other types of traffic.
- For mission critical systems (network core), the Town should carry an extended warranty that replaces failed components in a timely manner in order to minimize any extended downtime.
- To ensure the safety of its employees, the Town should consider the implementation of an enhanced 911 system.

3.4.4 Applications

	Maturity	Risk
3.4.4.1 Enterprise Applications	●●●○○	■

Observations

- The Town is managing a wide range of key business applications in the current portfolio. The key Town business applications currently include:
  - Microsoft Word
  - Microsoft Excel
  - Pro Phoenix (Public Safety)
  - WasteWorks (Water Treatment)
  - MUNIS (ERP)
  - American Health Tech LTC (Our Island Home Billing)
  - Point Click Care (Our Island Home Electronic Medical Records)
  - Civic Plus (Agenda Management)
  - PeopleGIS (Work Order)
  - Veoci (Airport and Time Entry)
  - Times/VCS (Time Entry and Scheduling)
  - Total FBO/FBO Manager (Airport)
  - Vision (Tax)

3.4.4.1 Enterprise Applications	Maturity	Risk
	●●●○○	

- Gradients (Time Tracking - Airport)
- LaserFische (Document management)
- DocStar (Document management)
- EverNote (Document Management)
- Harris Inhance (Utility Billing System)
- See, Click, Fix (CRM)
- Quickbooks (Treasury)
- GE Prophecy ifix (SCADA)
- Plan IT 2000 (Capital Budgeting)
- Quickbooks (Cash Management)
- ESRI (GIS)
- Access (Planning Database)
- BNA (Asset Management)
- GEOTMS (Permitting)
- Crystal Reports (Financial Reporting)

- A majority of users participating in the stakeholder interviews expressed a need to upgrade the current version of MUNIS to improve functionality.
- In addition, most end users expressed a need for additional training on the MUNIS system.
- The need for an ePermitting system was expressed by a majority of Town Stakeholders.
- It is apparent that a few of the existing enterprise system offer redundant functionalities. For example, TIMES/VCS, Veoci and MUNIS are all used for time entry.
- MUNIS Human Resources functionality is not fully implemented.

Opportunities

- Develop a project portfolio for the replacement/upgrade of certain key Town systems.
- Implement an IT governance committee that meets on a regular basis to discuss strengths and challenges with the current applications
- Look for opportunities to consolidate systems with 'redundant' functionality

	Maturity	Risk
3.4.4.2 Line of Business Applications	●●●○○	▲

Observations

- Human Resources has business needs that are currently unaddressed by MUNIS. These include personnel action, applicant tracking, performance management and disciplinary functionality needs that MUNIS could potentially address. Departments are currently keeping personnel records in paper form as they are unable to track the information in MUNIS.
- Wannacomet Water is in the process of investigating a major upgrade of their existing utility billing system.
- Multiple departments expressed the need for greater Work Order Management functionality.
- End users noted they have experienced increasing external demands for both Vendor and Customer self-service functionality.
- A modern Permitting system was the most commonly expressed unmet technology need from departments throughout the town. Nearly all Town permits (i.e., Fuel storage, business licenses, pole recordings, junk dealers, pool tables, etc.) are issued and renewed via a manual process.
- The town partnered with the state to test and choose a permitting software. However the initiative was not successful. The implementation was not completed and the town expended financial resources without any apparent ROI.

Opportunities

- A project portfolio and project prioritization will be discussed with Plante Moran during the upcoming Visioning session.

	Maturity	Risk
3.4.4.3 Reporting/Analytics	●●○○○	■

Observations

- Most reporting across the Town is accomplished outside of the enterprise applications in excel spreadsheets.
- IT has multiple resources in the department who assist with developing reports in MUNIS.
- Crystal Reporting is utilized within Accounting to generate key financial statements

Opportunities

- Departments are reliant on having accurate, relevant reports so that they can most effectively address the needs of their customers. Ensure the availability of reporting tools for departments.
- Develop a central reports repository for Town departments to leverage for standard reports.

	Maturity	Risk
3.4.4.4 Integration	●●○○○	■

Observations

- Interfacing of key Town business systems was limited, resulting in duplicative data entry (and subsequent reconciliation) between key applications.

	Maturity	Risk
3.4.4.4 Integration	●●○○○	

Opportunities

- Identify any potential interface points when new Town applications are selected and implemented.

3.4.5 End-User Computing

	Maturity	Risk
3.4.5.1 Workstation Strategy	●●●○○	

Observations

- There are approximately 155 workstations (135 desktops and 20 laptops) in use. The primary manufacturer of these systems is Dell Computer Systems (98%).
- The majority of the systems (93%) are under 5 years old. Systems are typically purchased with a 3 year warranty and are not typically extended after this initial period.
- Microsoft Windows 7 is the predominant (95%) operating system in use. There are a few Windows 8 (5%) based devices in use as well.
- There is no thin client computing (RDP or VDI based) in use today.
- There is no workstation management tool in place. All workstations are installed manually. There does appear to be a workstation deployment tool, but the use of this tool is very limited.
- Symantec EP v12.5 is used to provide AV and malware protection. A central console is used to push AV definitions.
- A Windows SUS or similar tool is used to deploy Windows operating system patches.
- Workstation inventory is maintained in Spiceworks.

Opportunities

- Consider the implementation of a low end workstation management system to improve efficiency and consistency.

	Maturity	Risk
3.4.5.2 Printer Strategy	●●●○○	

Observations

- Networked Multi Function Devices (MFD) are the primary resources for printing.
- The MFDs are maintained by a 3rd party vendor. The day to day administration of these devices is the responsibility of the IT team.

Opportunities

- No major opportunities identified.

	Maturity	Risk
3.4.5.3 Office Automation	●●○○○	

Observations

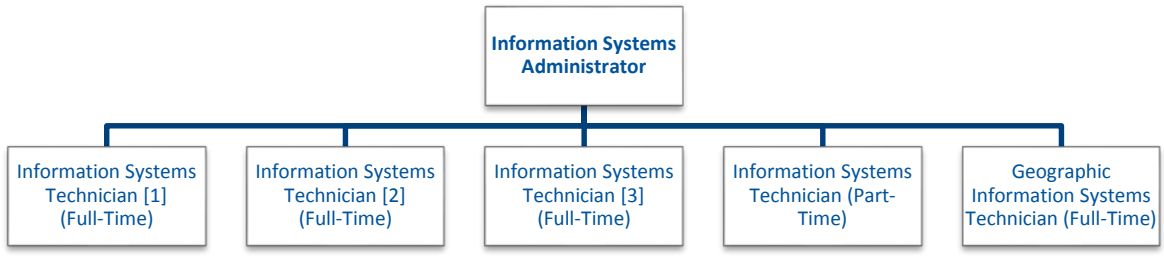
- The Town's technology users have expressed satisfaction with the current Microsoft Office product, Office 2007; however, Microsoft's mainstream support for Office 2007 has ended and extended support will end in October 2017.
- The IT department has submitted an operational request for FY2017 for approval to upgrade to Microsoft Office 365, Microsoft's subscription- and cloud-based office automation product.

Opportunities

- Upgrading to Microsoft Office 365 will put the Town on Microsoft's latest office automation software and will keep the Town under Microsoft's support.

Appendix A: Current Organizational Structure

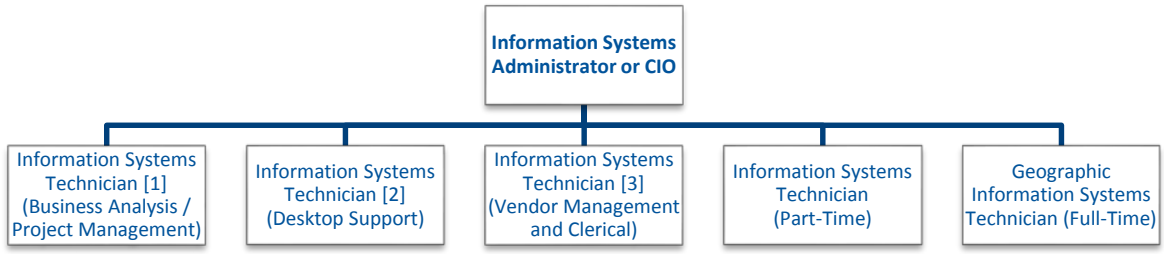
Below is the IT & GIS Department's current organizational structure.



Appendix B: Recommended Organizational Structure

The following organizational chart uses the same structure of the current organization, but it adjusts the responsibilities under the following assumptions:

1) The vacant Information Systems Technician role is filled
2) Back office hardware and software responsibilities are shifted to third parties through off-premise application hosting



Under these assumptions, the Information Systems Technician roles are expected to evolve as such:

- Information Systems Technician (1)
  - This role is the one that will undergo the most change in the coming years.
  - Currently, this role is primarily responsible for back office administration and maintenance of the enterprise software.
  - In the future, we expect this role to evolve to be more customer-facing and operate more as a business analyst and project manager. This person would be responsible for understanding departments' needs and applying technology (existing and new) to meet those needs. This person would also be involved in change management and end-user training.
- Information Systems Technician (2)
  - This role will remain largely the same and continue to provide customer-facing desktop support.
  - Additionally, this person would be involved in change management and end-user training.
- Information Systems Technician (3)
  - This is the currently vacant role that is assumed to be filled for the purposes of this future organizational chart.
  - This technician will be responsible for on-hours help desk operation, software & hardware vendor management, contract management, and other clerical duties (e.g. accounts payable processes)

Appendix C: End-User Survey

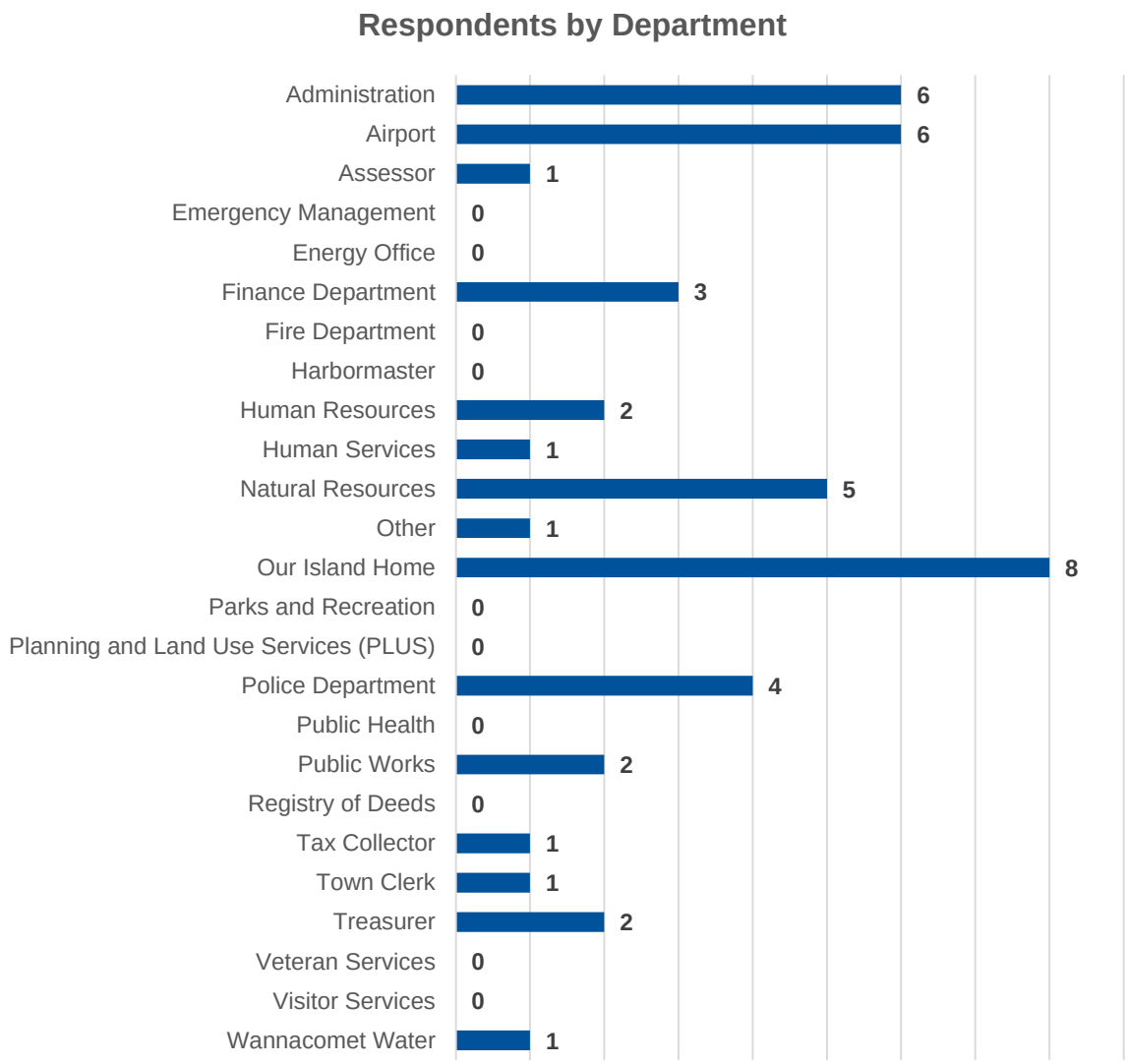
As part of the IT Assessment process, an end-user technology and services survey was conducted. The goals of the survey included assessing the satisfaction of technology users and identifying technology needs. The survey and survey data collected was managed externally by Plante Moran. To encourage participation, a survey invitation was distributed by the Town's management to all staff with Town-issued email addresses. Town staff were directed to a web-based survey and informed that their suggestions and individual response to the survey would remain confidential and only summarized results would be provided to Town administration. The survey remained available for over two weeks and multiple messages were sent during that timeframe encouraging them to complete the survey by the deadline if they had not done so already.

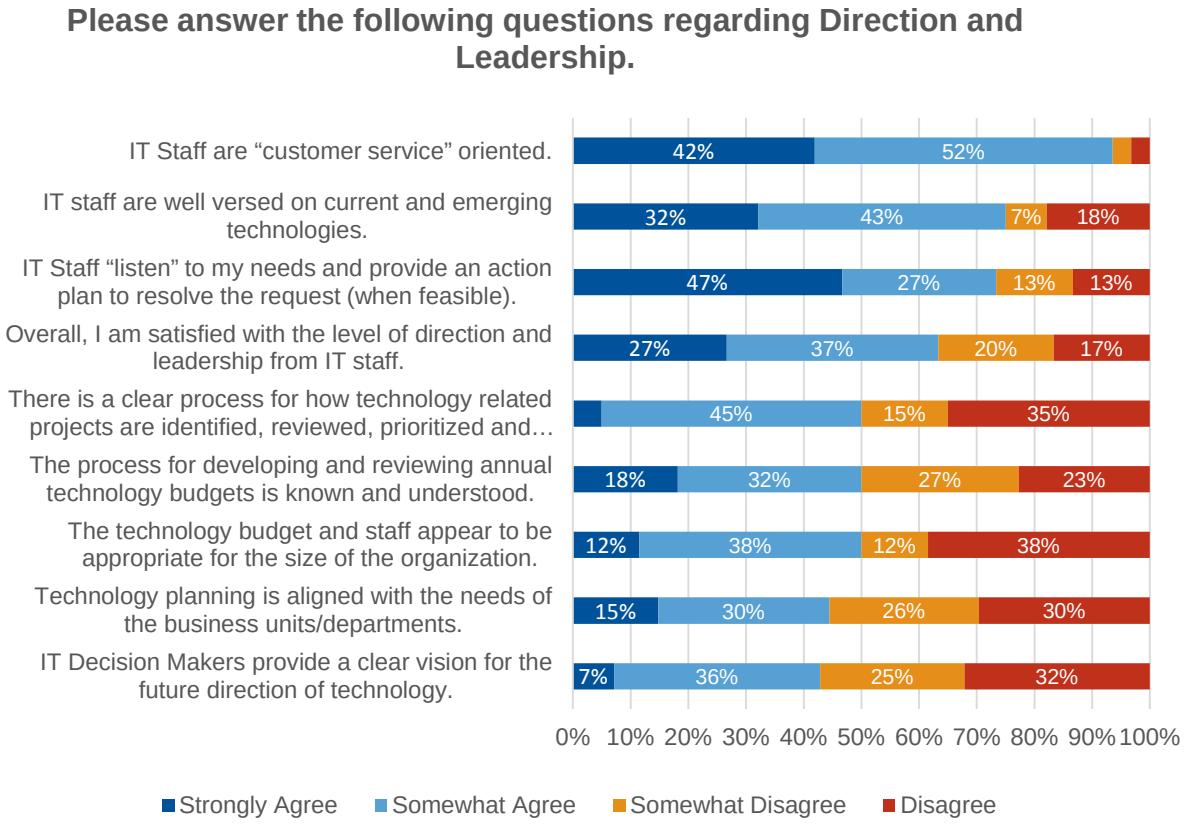
Of the Town staff that were invited to participate, 44 staff members completed the survey which on average took 11 minutes to complete. The results exclude responses that indicated "no basis to evaluate." The results in the following charts have been sorted in the order of positive response, defined as "Strongly Agree" or "Somewhat Agree."

A highlight of key results is provided in the following chart:

Question	Positive Response
Overall, I am satisfied with the level of communication from IT staff.	75%
Overall, I am satisfied with the level of service and support from the IT staff.	72%
Overall, I am satisfied with the level of direction and leadership from IT staff.	63%
Overall, I am satisfied with the level of General Application Training provided.	47%
Adequate technology related training opportunities are being offered to computer users.	33%
The organization's long-range technology vision and plans for implementation are shared with me.	29%

The End User Survey requests that respondents identify their department. The results are in the following chart.

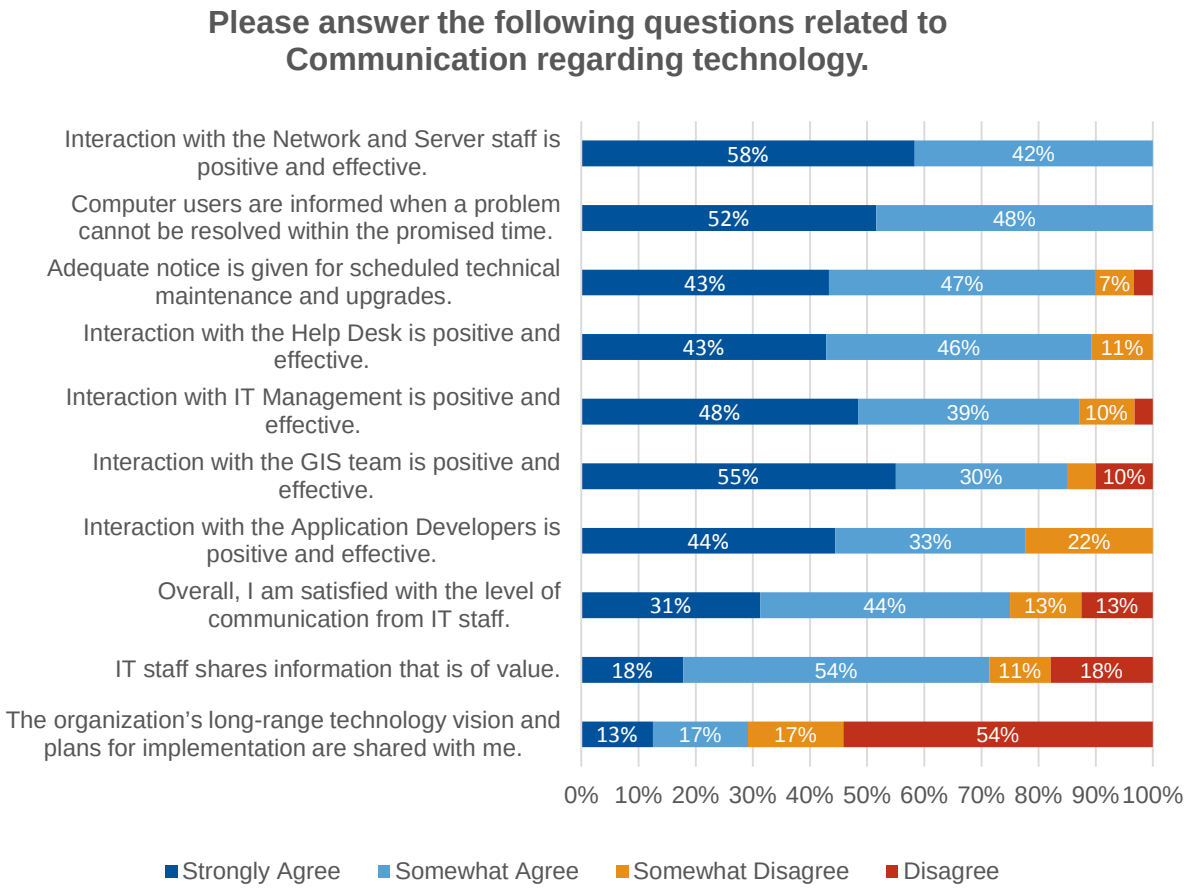




Regarding technology direction and leadership, end users were very satisfied with the attitude of staff, but they were less satisfied with technology planning and budget.

Opportunities:

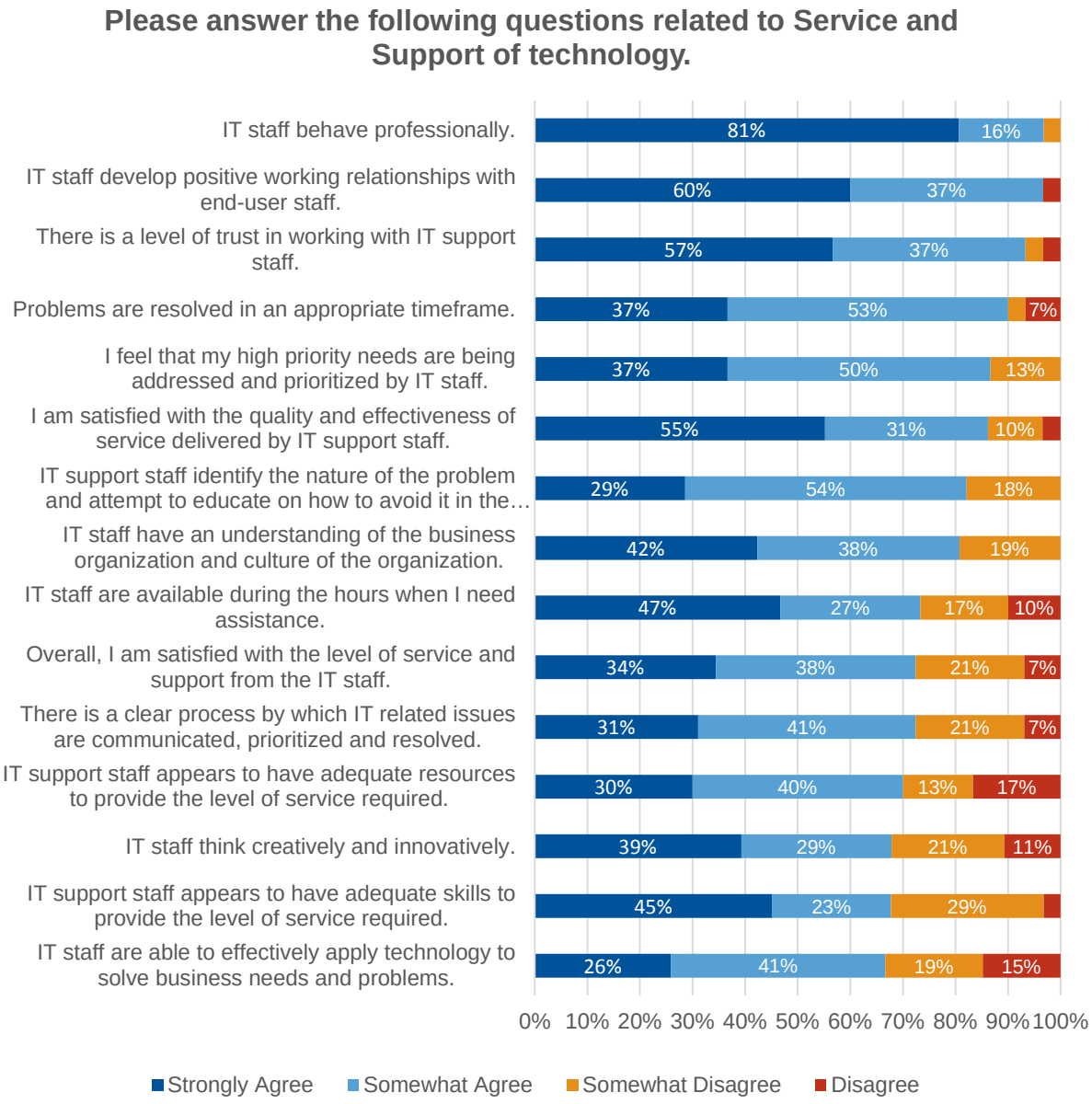
The largest weakness is “IT decision makers providing a clear vision for the future direction of technology,” at 43% positive response. This was one of the lowest positive responses of any question in the survey, and it is a major opportunity for improvement within IT.



Regarding communication and interactions between end users and the IT & GIS department, end users were mostly very satisfied. The only question that showed dissatisfaction among end users was, "The organization's long-range technology vision and plans for implementation are shared with me," at 30% positive response. This positive response percentage is tied for the lowest positive response in the survey with the question regarding technical training.

Opportunities:

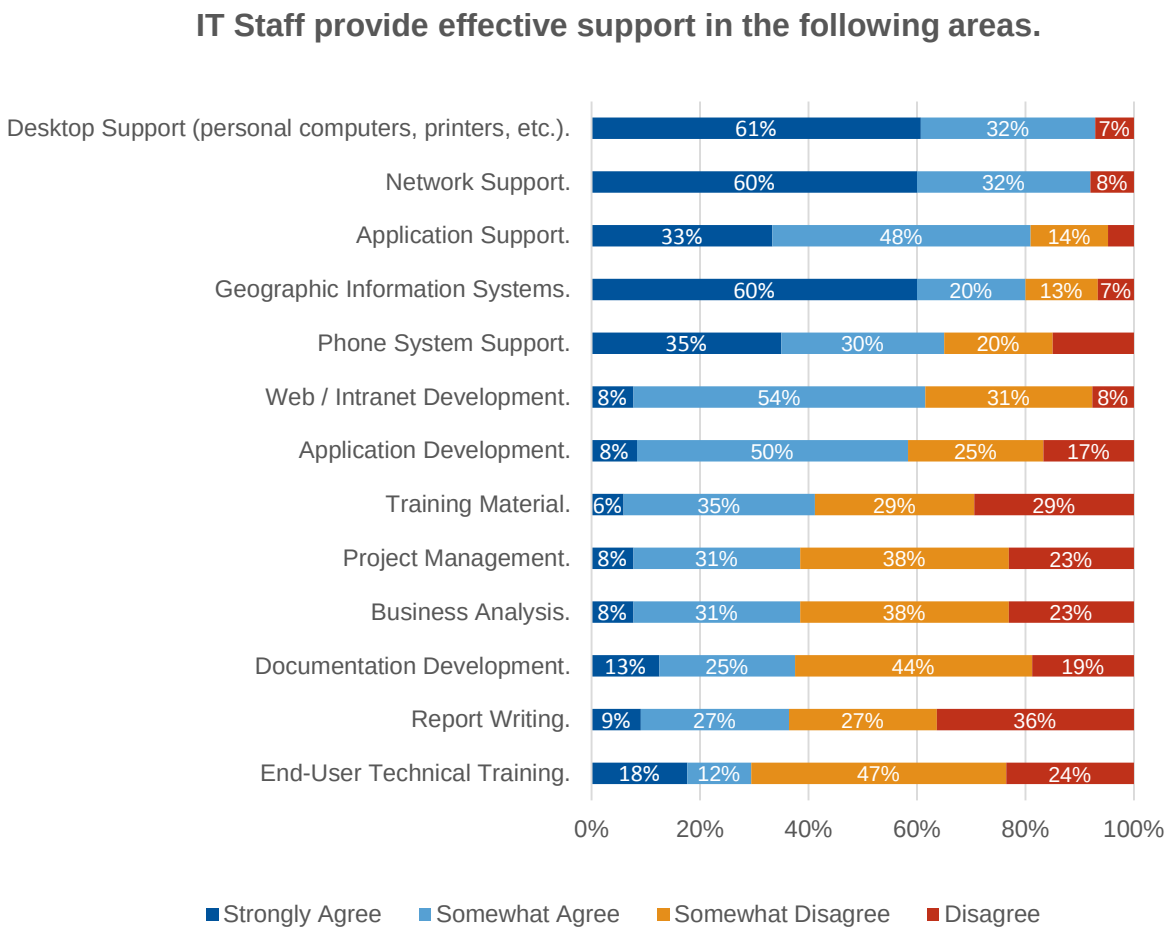
Again, the largest weakness has to do with technology planning, this time related to communicating long-range technology planning to the end-users. This is a major opportunity for improvement within IT.



As mentioned previously, the IT staff received praise from end-users both in the survey responses and our stakeholder interviews. End-users are overall satisfied with the support that they receive and the effort that the IT staff members put into customer service.

Opportunities:

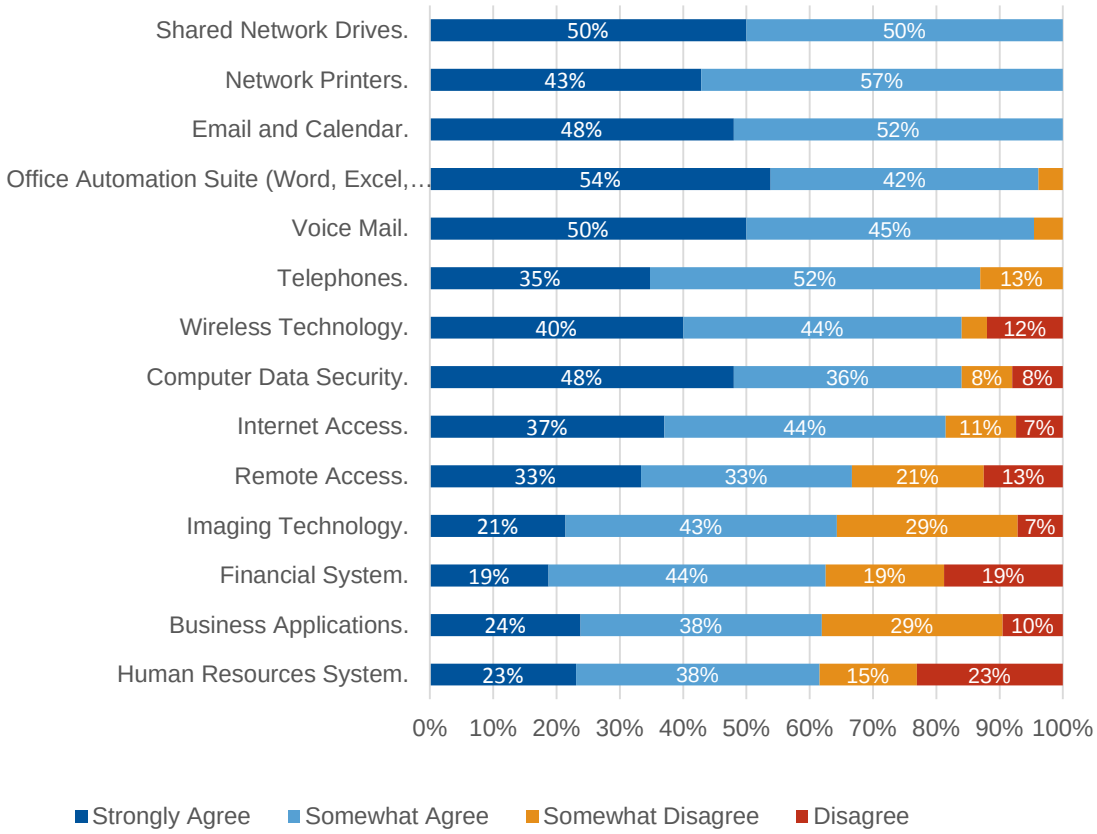
One area that end-users feel that IT can improve is being able to effectively apply technology to solve business needs and problems. As indicated in interviews, end-users expect IT staff to be familiar with available technologies that can help the business achieve its goals. Those end-users are looking for IT staff to bring new technologies to the table and effectively apply that technology to business needs.



Regarding the effectiveness of IT support, desktop support, network support, application support, and GIS all received high marks from technology users.

Opportunities:

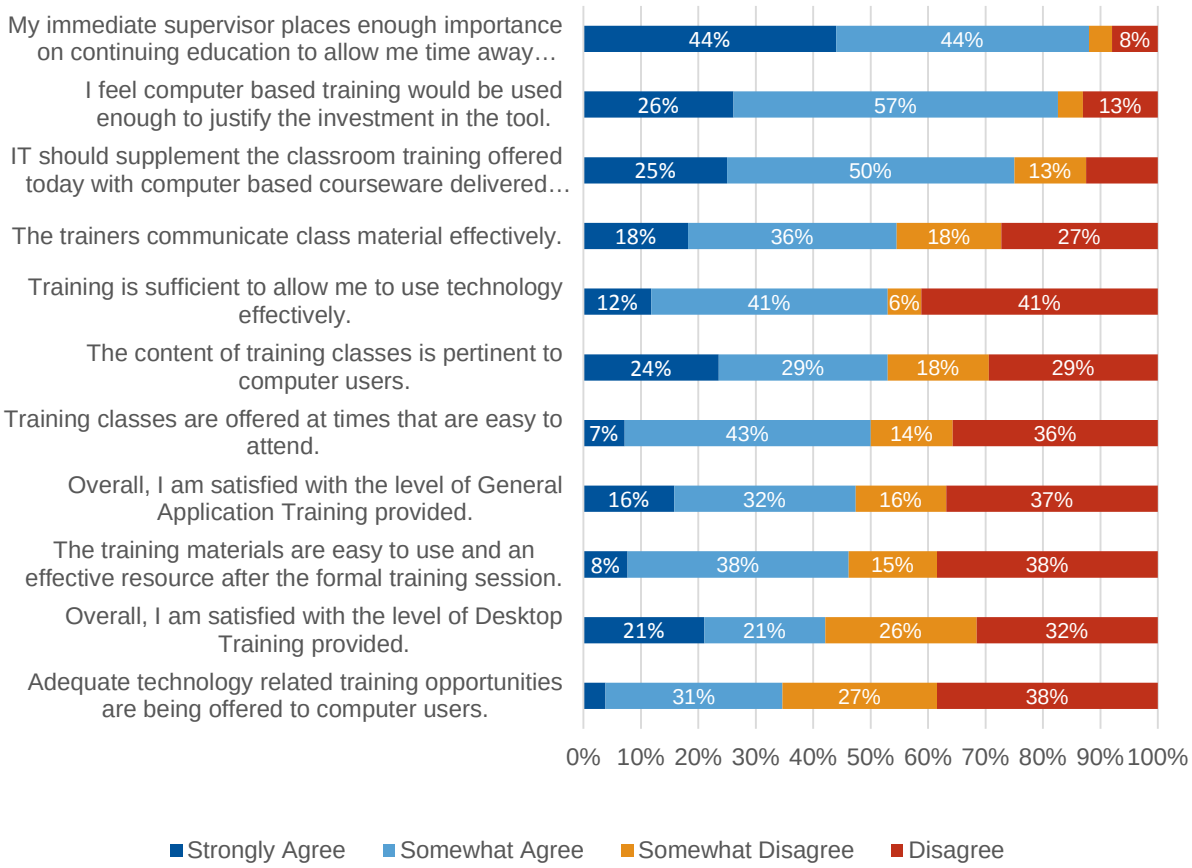
Users have expressed a desire for better technology training materials and documentation. Project management, business analysis, and report writing also received positive responses of less than 50%, which corresponds with previous findings that the end users would like IT to provide better business support. All of these areas provide opportunities for improvement.



Enterprise-wide technologies also received high marks from end-users. Shared network drives, network printers, email, office automation, and phones all topped the list of positive responses. The enterprise and business applications lagged behind the other technologies.

Opportunities:

End users ranked the financial system, HR system, and business applications at the bottom of their enterprise-wide technology satisfaction list. Per Town employees, some applications, such as HR/Payroll, have not been deployed to their full capacity. The Town should evaluate its existing ERP system to determine what functionality has been paid for but is not being used. The Town may also want to seek additional training from its software vendor.



Opportunities:

Based on the survey results, it appears that end-users would be supportive of additional training opportunities, both through classroom training and computer-based training (CBT). This message was also received through our stakeholder interviews during the assessment process. Training is an excellent area of opportunity for the IT department.

Appendix D: Return on Investment Policy and Model

Section 1

SUMMARY

Project portfolio management (PPM) facilitates decision making, through evaluation, selection, prioritization, balancing, and execution of the work, realization of benefits and feedback of results for process improvement. Project portfolio management is not project management. Rather, project management is an essential tool of project portfolio management.

The purpose of the IT Project Portfolio Management Policy is to identify, prioritize and balance IT projects so that appropriate resources can be applied in a timely manner to ensure successful project management and achieve the Town's operational and financial goals. The project portfolio as the primary tool to support IT decision-making and will demonstrate the relationship between current and planned investments.

DEFINITIONS

- **Portfolio** - a collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives.
- **Program** – a group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually.
- **Project** – a temporary endeavor undertaken to create a unique product, service or result.
- **Other Work** - work that is not characterized as a project or program but which management has determined it will include in the portfolio management process because of its call on the same resources, e.g. Initiatives.
- **Business Case** - a key document in the early life of a project or program that describes the reasons and the justification for its undertaking based on its estimated costs, the risks involved and the expected future business benefits and value. It provides the basis for selection and authorization of further effort on a project's definition, planning and estimating.
- **Benefit** - an outcome of the project that is perceived as beneficial by a stakeholder.
- **Executive** - that part of a whole organization or Business Unit responsible for governance and stewardship, i.e., strategic planning, administering and managing their entire part of their organization.
- **Program Management Office (PMO)** – a group that defines and maintains standards for project management and project portfolio management within the organization.
- **Project Management** - the application of knowledge, skill, tools, and techniques to project activities to meet the project requirements.
- **Operations** - that part of an organization responsible for the on-going deployment and support of services.

CITED/RELATED POLICIES AND DOCUMENTS

IT Project Request Form (Section 2)

IT Project Scoring Form (Section 3)

IT Master Project List (Section 4)

POLICY

- The IT Project Management Office (IT – PMO) manages Project Portfolio Management (PPM)
    - The Program Management Office will define and manage PPM for IT.
- PPM as owned by the PMO will be the IT office of record and will be the single source of truth regarding project status. That means:
    - PMO will maintain the IT master project list
    - PMO will be conversant in major project status and IT resource loads at any given point in time
    - PMO will communicate key information to all IT staff members on a regular (monthly, at a minimum) basis
- All potential projects shall be requested through the IT Project Portfolio Management Process.
- All potential projects shall be proposed by completing the IT Project Request form (Appendix A) and IT Project Scoring form (Appendix B).
    - The form will include sufficient information regarding the priority of the potential work so as to enable IT management to make decisions about where it is placed in the context of ongoing work.
- All projects require some form of project management to be successful. At a minimum, PPM requires that all IT projects will be responsible for to provide the following outputs into the portfolio management process:
    - Project charter (including a project owner and team members)
    - Functional requirements
    - Project schedule
    - Resource requirements
    - Monthly project status using standard PMO document
- Application of this policy will be phased in:

- Phase I will provide for a rapid deployment of a minimum set of procedural steps that will address the highest priority issues quickly (See Phase I Procedure section below).
- Phase II and beyond will mature the process and benefit from lessons learned in previous phases and will be initiated by a revision to this policy.

Disciplinary Action

- Violation of this Project Portfolio Management Policy may result in disciplinary action up to and including termination of employment.

Approvals Required

- Approvals and concurrence of the Chief Information Officer (CIO), or by delegation IT Managers are required for further revisions to this policy.

PROCEDURE

Project Intake

- Potential new projects are initiated by completing the Project Request form and submitting it to the PMO via email.
  - A majority of the new potential work will be initiated by the CIO, IT Managers, Security Officer, Admin Manager or PM – Lead, from customer contact or as a result of upgrades, audits or other internal processes
    - Customers will be engaged in this process to assist IT with the completion of this form
  - Other potential work will originate with user contact with the IT Help Desk
    - Help Desk will route unique, non-operational work to the appropriate Deputy Director who will evaluate the request and determine if it should be routed to the PMO as a potential project or back into the IT Service Management process
- The PMO will acknowledge the new request via email
- The PMO will review the request for completeness. If incomplete, the requestor will be notified and the request will be returned.
- The complete request will be scored by the requestor with PMO assistance if necessary.
- The complete request and score will be added to the bi-weekly PPM agenda and reviewed at the meeting.

Management of the Master Project List

- PMO will hold bi-weekly meetings where new projects are introduced and vetted. Attendees are: CIO, IT Managers, Audit Officer, Security Officer, Admin Manager and PM – Lead. The agenda for this meeting will be:
  - Review of status updates from project owners
  - Verification of existing project priorities

  - Review of resource availability (human and financial)
  - Introduction of new potential projects
  - Group discussion on where new projects fit within existing priorities

- Approved requests will be prioritized based on scoring, requested timeline and resource availability
- The PMO will assign a project number to the approved request and notify requestor of approval status and targeted start date
  - If an approved request is prioritized above an active project, communication to the impacted lower priority project and resource manager will be required by the PMO
- Approved request will be assigned a project manager by the PMO when the actual project start date is determined
- Non-approved requests will be returned to the requestor by the PMO with comments regarding non-approval

Section 2

IT Project Request Form

Project Name		**Request Date**	
Project Type	☐ New Application ☐ Application Upgrade ☐ Other		
Requestor Name		**Phone**	
Department		**Dept #**	
Department Sponsor		**Phone**	
Business Analyst/UL		**Phone**	

- **Project Overview**

Description: *What is being proposed? Provide a brief description.*	
Objective(s): *What is the purpose of the proposed project? Highlight benefits for your department and Town.*	
Strategic Fit: *What Town and/or department strategic objective(s) will be met by the proposed change?*	
Impact: *What other systems/services, departments or resources will be impacted by the proposed change?*	
Risk(s): *What are the risks of doing the project? What are the risks of not doing the project?*	
Doing: •	Not doing: •
Mandate: *Is there a mandate for this proposed change?*	
	Date Required: Click here to enter a date.
Budget: *Is funding required? What is the funding source?*	

Funding Required: Choose an item. Amount (if funded): Funding Year: Choose an item.	Funding Source and Amount: ☐ County ☐ State ☐ Federal
Timeframe: *What is the estimated start and end date?*	
Estimated Start Date:	**Estimated End Date:**

Milestones: *High level dates to assist with resource planning.*		
Requirements	Click to enter a start date.	Click to enter an end date.
Design / RFP	Click to enter a start date.	Click to enter an end date.
Architecture Ready	Click to enter a start date.	Click to enter an end date.
Development / Configuration	Click to enter a start date.	Click to enter an end date.
Testing	Click to enter a start date.	Click to enter an end date.
Operations Ready	Click to enter a start date.	Click to enter an end date.
Go Live	Click to enter a start date.	Click to enter an end date.

-

IT Only:	
Date Received:	**PMO Review Date:**
Business Case Required: ☐ Yes ☐ No	**IT Review Date:**
Project Approved: ☐ Yes ☐ No	**Requestor Notify Date:**
Comments:	

Section 3

IT Project Scoring Form

Department Name and Project Name

	Strategy/ Objective	Criteria	Scoring (Y if Condition Met)	Condition	Score
Urgency (110)	Mandated (50)	Federal, State or City mandate?		Mandated (+50 pts)	0
	Secuity/Compliance Risk (20)	Security/Compliance Implications - HIPAA, PCI		Priority (+20 pts)	0
	Strategic Goal (14)	What is the allignment of this project with City Council Strategic Goals?		**(Select best one only)**	
				Direct allignment with one or more Council goals (+12 pts)	0
				Direct allignment (+8 pts)	0
				Indirect allignment (+4 pt)	0
				No allignment (0 pts)	0
	Required (12)	Is this project Required?		**(Select best one only)**	
				Required to sustain Operations (+12 pts)	0
				Required to reduce risk (+8 pts)	0
				Required to reduce cost (+4 pt)	0
				Not Required (0 pts)	0
	Flexibility (12)	Is the project timeline flexible?		**(Select best one only)**	
				Required in fewer than 12 months (+8 pts)	0
				Required in fewer than 18 months (+4 pts)	0
				Required within 2 years (+1 pt)	0
				No Required Deadline (0 pts)	0
	Need of System (12)	Is it an urgent need for the City?		**(Select best one only)**	
				Urgent for City (+8 pts)	0
				Pressing need of the City (+4 pts)	0
				Urgent for Department (+1 pts)	0
				Pressing need for Department(0) pts)	0
			Category Sub-Total		0
Impact (30)	Reach/support customer base (10)	What users will be impacted?		**(Select best one only)**	
				Internal and external? (+10 pts)	0
				External only? (+7 pts)	0
				Internal only? (+5 pts)	0
				Single department only (+4 pts)	0
	Increase effectiveness (10)	Does it improve ability of City staff or their customer to do task?		**(Select best one only)**	
				Improvement for City staff and customer (+10 pts)	0
				Improvement for City staff or customer (+6 pts)	0
				No improvement for City staff or customer (-2 pt)	0
	Current State (10)	What is the state of the current system?		**(Select best one only)**	
				Completely inadequate / End of Life / New System (+10 pts)	0
				Functioning, but close to end of life (+6 pts)	0
				Functioning, but could be better (+3 pt)	0
				System Upgrade (0 pts)	0
			Category Sub-Total		0
Financial (20)	Staff or System Reduction (10)	What is the effect on staff or systems reduction?		**(Select best one only)**	
				Addresses unnecessary / likely redundancy (+10 pts)	0
				Reduce Head Count / Systems (+5 pt)	0
				No Change in Staff or Systems (+0 pts)	0
				Additional staff / systems needed for support (-4 pts)	0
	Operational cost (10)	Is there a positive ROI?		**(Select best one only)**	
				Will pay for itself and generate revenue? (+10 pts)	0
				Implemented to avoid cash expenditure (+5 pts)	0
				No effect (0 pts)	0
				Increase (-5)	0
			Category Sub-Total		0
	Totaled Priority Score				**0**

Section 4

Master Project List Components:

The master project list is an excel file which include the following information for each project:

Status – Active, Pending, Proposed, Archived

Project ID – Project Identifier given to project once approved and active

Priority – determined by project scoring form and PPM Balancing exercise

Project Name – Name and description of project

Project Type – Compliance, Strategic Investment, Incremental Upgrade

IT Division – Technical Services, Enterprise Services, Governance, Other

Dependency – Other project dependencies

Start Date – Estimated beginning date of project

End Date – Estimated end date of project

Budget Amount – Approved Budget Amount

Sponsor – Project decision maker

Department – Department(s) involved with the project

Project Manager – Assigned project manager

Phase – Imitation, Planning, Executing, Closing

Project Health – Green, Yellow, Red

Executive Summary – Summary of monthly activity and status

Appendix E: Sample Policies

Sample Policy	Policy Purpose / Content
Antivirus Policy	This policy defines how organizational resources are protected against intrusion by viruses and other malware. At a minimum, the policy identifies how servers and workstations are scanned, signature updates, email virus and malware scanning, email attachments, etc.
Patch Management Policy	This policy is required to establish a minimum process for protecting the organizational computers on the network from security vulnerabilities. This policy will determine how updates are done for both servers and workstations and who is responsible for performing the updates along with specifying the tools used to perform system updates.
Remote Access Policy	This policy defines standards for connecting to the organizational network and security standards for computers that are allowed to connect to the organizational network. This policy should also specify how remote users can connect to the main organizational network and the requirements for each of their systems before they are allowed to connect.
Incident Response Plan (IRP)	The IRP defines what constitutes a security incident and outlines the incident response phases. At a minimum, this should address what constitutes an incident, incident response goals, incident planning, and the incident response life cycle.
Data Management and Retention Policy	Data retention policy defines the types of data and their retention requirements. In addition the retention policy describes the procedures for archiving the information and guidelines for destroying the information.
Portable Storage Policy	A policy should be developed that either prohibits the use of USB drives or allows their usage with proper encryption standards.
Password Policy	This policy is a designed to enhance compute security by encouraging users to employ strong passwords and use them properly.
User Access Policy	This policy defines the users who have access to and control of sensitive or regulated data. This policy is designed to minimize risk to organizational resources and data by establishing privileges for users of data and equipment on the network to the minimum allowable while still allowing users to perform job functions without undue inconvenience. This policy should be very specific and refined based on the needs of the organization.

Sample Policy	Policy Purpose / Content
Infrastructure Refresh Policy	The purpose of a refresh policy is to ensure technology (network, servers, storage, backup, telecom, workstations) do not become obsolete. A comprehensive policy can be created or individual policies can be developed for each area.
Help Desk Policy	This policy identifies the proper method for requesting assistance from the IT helpdesk. This will assist IT in providing enhanced service, developing appropriate software training needs, and assessing the suitable level of staff needed to handle the volume of requests.
Change Management Policy	The purpose of the change management policy is to manage changes in a rational and predictable manner so that end-user and other IT staff can plan accordingly. A formal written change request must be submitted for all changes, both scheduled and unscheduled.
Security Penetration Testing Policy	This policy is designed to establish a protocol to routinely evaluate the security of the Town's IT network systems by simulating an attack from a malicious source.
Computer and Internet Usage Policy/Acceptable Use Policy	The policy is set of rules applied by the Town's that restrict the ways in which the network, internet access and other systems may be used in order to mitigate the risk of inappropriate use.
Data Backup Policy	The purpose of the data backup policy is to protect data in the organization to be sure it is not lost and can be recovered in the event of an equipment failure, intentional destruction of data, or disaster.
Email Usage Policy	This policy can be incorporated within an Acceptable Use Policy (AUP) and is intended to address appropriate use of email and or other communications systems, as well as ownership of both the systems and the communications themselves.
Social Media Policy	This policy is intended to address the purpose of social media in the Town, identifying responsibilities of the citizens and staff, encouraging and providing guidelines in consideration of the expected audience.
IT Asset Management Policy	The purpose of the IT asset management policy is to join financial, contractual and inventory functions to support life cycle management and strategic decision making for the IT environment.

Sample Policy	Policy Purpose / Content
Mobile & Personal Device Policy	The purpose of the mobile & personal device policy is to ensure compliance with federal regulations governing privacy and security of information, and to protect confidential data in the event mobile electronic data device loss or theft. The policy also defines the appropriate usage of these devices when used to access the Town's resources.
Compliance Policy	This policy is intended to present how the Town defines compliance (e.g. HIPAA, etc.) and the compliance function's role and responsibilities regarding the management of compliance risks.

Appendix F: Service Level Metrics

Performance Classifications

The following represents the Classification Levels used in connection with the proposed Nantucket Service Level Agreement Measures.

Classification Level	Meets one or more of the following
Urgent Severity	• Issue affecting entire system; • System down; • Affecting Public Safety; and/or • Data integrity at risk;
Critical Severity	• Issue affecting single critical production function; • System operating in materially degraded state; and/or • Material financial impact
High Severity	• Minor subsystem failure has occurred; and/or • Data entry or access is impaired on a limited basis
Medium Severity	• System is operating with minor issues that can be circumvented
Low Severity	• Request for assistance, information or services that are routine in nature

Proposed Nantucket SLA Scorecard

The following Nantucket SLA Scorecard indicates the Measures and Performance Levels which will be used to evaluate the performance of the Technical Services Department in delivering IT Services and Projects.

	Staffing Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Staffing	Annual Staff Retention Rate	N/A	90%	80%	Within 5 business days of the end of Measurement Period	Annually
	Staff Education Plans Compliance	N/A	75%	60%	Within 5 business days of the end of Measurement Period	Annually

Suggested Source: HR/IT Management

	Measure	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Quality	Failed Change Management Requests	N/A	5%	10%	Within 5 business days of the end of Measurement Period	Monthly

Measure		Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
	System Availability (Up Time)	100%	99.9%	99.0%	Within 5 business days of the end of Measurement Period	Monthly
	Network Availability (Up Time)	100%	99.9%	99.0%	Within 5 business days of the end of Measurement Period	Monthly
	Telecommunications Availability (Up Time)	100%	99.9%	99.0%	Within 5 business days of the end of Measurement Period	Monthly

Suggested Source: Remedy/HP Openview

	Client Satisfactions Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Client Satisfaction	Annual Client Satisfaction Score	5.00	4.5	4.0	Within 5 business days of the end of Measurement Period	Annually

	Client Satisfactions Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
	Monthly Client Satisfaction Scores	5.00	4.5	4.0	Within 5 business days of the end of Measurement Period	Monthly
	Project Client Satisfaction Scores	5.00	4.5	4.0	Within 5 business days of the end of Measurement Period	Duration of Project
	Project Milestone Client Satisfaction Scores	5.00	4.5	4.0	Within 5 business days of the end of Measurement Period	Duration between Milestone Activities

Suggested Source: Help Desk Surveys and Formal Surveys

	Responsiveness Measure	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Responsiveness	Tickets Resolved First Contact	70%	80%	60%	Within 5 business days of the end of Measurement Period	Monthly

Responsiveness Measure	Performance Levels				
	Critical Performance Levels			Reporting Performance Levels	
	Benchmark	Goal	Floor	Reporting Period	Measurement Period
Initial Response Time – Business Hours – Phone Call, Instant Message	N/A	Immediate	10 Min.	Within 5 business days of the end of Measurement Period	Monthly
Initial Response Time – Business Hours – Email, On-Line Ticket	N/A	15 Min.	30 Min.	Within 5 business days of the end of Measurement Period	Monthly
Initial Response Time – After Hours	N/A	15 Min.	30 Min.	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Urgent Severity	N/A	12 hrs	24 hrs	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Critical Severity	N/A	24 hrs	2 days	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve High Severity	N/A	24 hrs	5 days	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Medium Severity	N/A	24 hrs	5 days	Within 5 business days of the end of Measurement Period	Monthly

	Responsiveness Measure	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
	Time to Resolve Low Severity	N/A	5 days	10 days	Within 5 business days of the end of Measurement Period	Monthly

Central Helpdesk Measures – Suggested Source: Remedy

	Responsiveness Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Responsiveness	Tickets Resolved First Contact	N/A	25%	20%	Within 5 business days of the end of Measurement Period	Monthly
	Initial Response Time – Business Hours – Phone Call, Instant Message	N/A	Immediate	10 Min.	Within 5 business days of the end of Measurement Period	Monthly
	Initial Response Time – Business Hours – Email, On-Line Ticket	N/A	15 Min.	30 Min.	Within 5 business days of the end of Measurement Period	Monthly

Responsiveness Measures	Performance Levels				
	Critical Performance Levels			Reporting Performance Levels	
	Benchmark	Goal	Floor	Reporting Period	Measurement Period
Initial Response Time – After Hours	N/A	15 Min.	30 Min.	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Urgent Severity	N/A	12 hrs	24 hrs	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Critical Severity	N/A	24 hrs	2 days	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve High Severity	N/A	24 hrs	5 days	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Medium Severity	N/A	24 hrs	5 days	Within 5 business days of the end of Measurement Period	Monthly
Time to Resolve Low Severity	N/A	5 days	10 days	Within 5 business days of the end of Measurement Period	Monthly

Suggested Source: Wireless Asset Management System

	Projects Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Projects	Projects within Budget	100%	90%	80%	Within 5 business days of the end of Measurement Period	Monthly
	Projects Timely Completion	100%	90%	80%	Within 5 business days of the end of Measurement Period	Monthly

Suggested Source: To Be Determined

	Projects Measures	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Project Milestones	Milestones within Budget	100%	90%	80%	Within 5 business days of the end of Measurement Period	Monthly
	Milestones Timely Completion	100%	90%	80%	Within 5 business days of the end of Measurement Period	Monthly

Suggested Source: To Be Determined

	Financial Measure	Performance Levels				
		Critical Performance Levels			Reporting Performance Levels	
		Benchmark	Goal	Floor	Reporting Period	Measurement Period
Financial	Operational Budget Variance	0%	5%	15%	Within 5 business days of the end of Measurement Period	Monthly

Measurement Definitions and Calculation

	Measure	Description	Calculation
Staffing	Staff Retention Rate	Percent IT staff retained	(T ÷ HC) x 100 = % Where: T = Total turnover count per calendar month HC = Total head (FTE) count on the first day of the calendar month
	Staff Education Plans Compliance	Percent compliance with IT staff education plans	(CC ÷ CP) x 100= % Where: CC = Total count of courses completed by staff members CP = Total count of courses planned

	Measure	Description	Calculation
Quality	Failed Change Management Requests	Percent of change management requests which fail	(FR ÷ TR) x 100=% Where" FR=Total count of the failed change management requests TR=Total count of the change management requests
	System Availability (Up Time)	Percent of total possible time available per month for mission critical systems according to predefined service hours; does not include scheduled downtime	(24 × M – O) ÷ (24 × M) × 100 = % Where: M = number of days in the measurement period O = Outage time in hours for each affected service The measurement period for service availability is each calendar month. Outage time for service availability will begin when an incident is reported.
	Network Availability (Up Time)	The time all network segments (including internet connectivity) are available according to predefined service hours; does not include scheduled downtime.	(24 × M – O) ÷ (24 × M) × 100 = % Where: M = number of days in the measurement period O = Outage time in hours for each affected service The measurement period for service availability is each calendar month. Outage time for service availability will begin when an incident is reported.

	Measure	Description	Calculation
	Telecommunications Availability (Up Time)	The time all telecommunication services (including voicemail, PBX, & VoIP) are available according to predefined services hours; does not include scheduled downtime.	(24 × M – O) ÷ (24 × M) × 100 = % Where: M = number of days in the measurement period O = Outage time in hours for each affected service The measurement period for service availability is each calendar month. Outage time for service availability will begin when an incident is reported.

	Measure	Description	Calculation
Client Satisfaction	Annual Client Satisfaction Score	The measure of customer satisfaction by distributing, collecting, and analyzing standard surveys to users based upon problem tickets.	Average of all scores from the survey responses (1 – 5, where 5 is the highest level of satisfaction).
	Monthly Customer Satisfaction Score	The measure of customer satisfaction by distributing, collecting, and analyzing standard surveys to users based upon problem tickets.	Average of all scores from the survey responses (1 – 5, where 5 is the highest level of satisfaction).
	Project Client Satisfaction Score	The measure of customer satisfaction by distributing, collecting, and analyzing standard surveys to users based upon completion of a specific project.	Average of all scores from the survey responses (1 – 5, where 5 is the highest level of satisfaction).
	Project Milestone Client Satisfaction Score	The measure of customer satisfaction by distributing, collecting, and analyzing standard surveys to users	Average of all scores from the survey responses (1 – 5, where 5 is the highest level of satisfaction).

	Measure	Description	Calculation
		based upon completion of a specific project milestone.	

	Measure	Description	Calculation
Responsiveness	Tickets Resolved First Contact	Percent of problem work orders resolved upon first contact by an IT staff member with the user.	RFC ÷ TWO × 100 = % Where: RFC = Help Desk tickets resolved during first contact with the Help Desk TWO = Total Help Desk tickets
	Initial Response Time – Business Hours – Phone Call, Instant Message	The time it takes a user to receive a response to a phone call or instant message to the Help Desk during business hours.	Date/Time of Response – Date/Time of Contact (Call/Instant Message) = Initial Response Time
	Initial Response Time – Business Hours – Email, On-Line Ticket	The time it takes a user to receive a response to an e-mail or on-line ticket to the Help Desk during business hours.	Date/Time of Response – Date/Time of Contact (Email/On-Line Ticket) = Initial Response Time
	Initial Response Time – After Hours	The time it takes a user to receive a response after reporting an issue to the Help Desk after business hours.	Date/Time of Response – Date/Time of Contact = Initial Response Time

Measure	Description	Calculation
Time to Resolve Urgent Severity	The time it takes a user to receive a solution or circumvention after reporting an issue to the Help Desk during normal business hours for urgent severity ticket.	Date/Time of Resolution – Date/Time of Initial Response = Time to Resolve
Time to Resolve Critical Severity	The time it takes a user to receive a solution or circumvention after reporting an issue to the Help Desk during normal business hours for critical severity ticket.	Date/Time of Resolution – Date/Time of Initial Response = Time to Resolve
Time to Resolve High Severity	The time it takes a user to receive a solution or circumvention after reporting an issue to the Help Desk during normal business hours for high severity ticket.	Date/Time of Resolution – Date/Time of Initial Response = Time to Resolve
Time to Resolve Medium Severity	The time it takes a user to receive a solution or circumvention after reporting an issue to the Help Desk during normal business hours for medium severity ticket.	Date/Time of Resolution – Date/Time of Initial Response = Time to Resolve
Time to Resolve Low Severity	The time it takes a user to receive a solution or circumvention after reporting an issue to the Help Desk during normal business hours for low severity ticket.	Date/Time of Resolution – Date/Time of Initial Response = Time to Resolve

	Measure	Description	Calculation
Projects	Projects within Budget	The total number of Projects during the previous twelve-month period that were completed with no more than ten percent (10%) variance from the approved Project budget agreed between IT and the customer.	(B ÷ T) × 100 = % Where: B = Total count of projects completed within budget. T = Total count of approved/active projects.
	Projects Timely Completion	The total number of Projects during the previous twelve-month period that were completed with no more than ten percent (10%) variance from the approved Project timeline agreed between IT and the customer.	(D ÷ T) × 100 = % Where: D = Total count of projects completed on time. T = Total count of approved/active/assigned projects.
	Milestones within Budget	The total number of Project Milestones during the previous twelve-month period that were completed with no more than ten percent (10%) variance from the approved Project budget agreed between IT and the customer.	(B ÷ T) × 100 = % Where: B = Total count of project milestones completed within budget. T = Total count of approved/active project milestones.
	Milestones Timely Completion	The total number of Project Milestones during the previous twelve-month period that were completed with no more than ten percent (10%) variance from the approved Project timeline agreed between IT and the customer.	(D ÷ T) × 100 = % Where: D = Total count of project milestones completed on time. T = Total count of approved/active/assigned project milestones.

	Measure	Description	Calculation
	Operational Budget Variance	The difference between the IT Operational Budget and the actual amounts	(ACT – TSB) ÷ TSB × 100 = % Where: ACT = Total of Actual Expenditures TSB = Total Technical Services Budget Amount

Appendix G: Sample Partnership Agreement

A Partnership Agreement
Information Technology
And
XXXX Department

PURPOSE AND OBJECTIVE

This Partnership Agreement ensures that Nantucket Information Technology (IT) and XXXXXX Department jointly deliver the level of service and support required for the smooth operation of computer and telephone systems.

The IT Division and XXXXXXXXXXXXXX Department have jointly created this Partnership Agreement to help both parties understand each other's needs, priorities, and concerns. This document, presents the service conditions and expectations of the Agreement, IT performance measurements, IT reporting requirements, roles and responsibilities and other important service information.

Modifications to this agreement will be made at the direction and agreement of both parties. Following the implementation of this agreement, periodic joint reviews will drive future enhancements.

It is understood that the agreement remains in force until it is explicitly replaced or terminated by either party.

_____	_____
XXXXXXXX, Director	XXXXXXXXXX, Director
XXXXXXX Department	Information Technology
_____	_____
Date	Date

1. Technology Support Plan: Core Business Technologies

List core business technologies here, such as Office Suite, Email, etc.

	Support Responsibilities		
	Department/Liaison	**IT**	**Vendor or Other**
			Outside Entity
	1. Identify Technology, Telecomm and Web Liaisons 2. Develop work plans for liaisons that include the liaison role 3. Provide release time for training of liaisons to perform duties 4. Provide release time for training of department staff on core technology applications they use 5. Adhere to BOC policies and IT standards around the use of technology 6. Communicate future technology needs through the Internal Consulting Group and bi-annual Planning Process 7. Use the Infrastructure Resource Allocation Process 8. Use Core Technologies whenever possible 9. Participate in process reviews related to technology projects 10. Consult with IT on all new technology plans and projects 11. Work with IT to develop a Total Cost of Ownership for all new projects 12. Develop Business Continuity Plan for departmental business if technology is unavailable 13. Initial diagnosis of problems and reporting to IT or vendor if additional help needed. 14. Communicate with IT about any new staff moves, adds or changes at least two	1. Consulting on: a. New technologies b. New Projects c. Peripheral Products 2. Initial diagnosis of problems after liaison review 3. Technology liaison coordination, development and coordination, backups of data on central system 4. Installation, configuration and maintenance of central disk storage system 5. Installation, configuration and maintenance of servers 6. Installation, configuration and maintenance of desktop and laptop computers and standard peripheral equipment 7. Develop, maintain and monitor desktop standards – hardware, software and peripheral equipment 8. Database Maintenance to ensure integrity of data and efficient operation of applications 9. Installation, maintenance and recurring cost of data circuits for wide area network and phone systems 10. Develop downloads of data for outside entities so these can be routinely done by departmental staff or perform downloads if they are routine 11. Entry and maintenance of network users – logons and security access 12. Installation and configuration of printers on the network 13. Install, set up and maintain Town web servers for web-enabled applications 14. Collaborate with outside entities to set up required connectivity to outside systems	1. Develop Application Upgrades 2. Complex Problem Resolution 3. Database Upgrade Maintenance

	weeks before the change is needed (more if the change is large). 15. Communicate with IT regarding new staff via the Day One process	15. Develop, maintain and test a Disaster Recovery Plan to protect Town computer and telecommunications resources 16. Security of network, telephones and data 17. Support of federal and state regulations (i.e. HIPAA, HUD) as related to technology 18. Technology Plan development, budget and implementation 19. Hardware replacement plan development, budget and implementation 20. Telecommunications system installation and support **21. Meet or exceed Response and Availability Standards of XXXXXXX** 22. Licensing, maintenance and support costs for core applications 23. Maintain a test environment for ERP	

2. Technology Support Plan: Widely-Used Applications

Examples: Adobe Acrobat, Adobe Distiller, Crystal Reports, Instant Messenger, Omni Page, Photoshop, Project, Visio, etc.

	Support Responsibilities		
	Department/Liaison	**IT**	**Vendor or Other**
			Outside Entity
	1. Provide opportunities for training of liaisons to support applications 2. Provide opportunities for training of department staff on applications they use 3. Initial diagnosis of problems and reporting to entity which supports the application if additional help needed. 4. Simple Report Generation 5. Consult with IT if needs for applications change 6. User and application security, if exists	1. Consulting on applications to meet Town needs 2. Installation and configuration of application on departmental desktops and laptops 3. Purchase and maintenance costs of licenses for applications 4. Contracts for and cost of maintenance/problem resolution services 5. Contracts for and cost of training necessary outside the Professional Development and mini-grant process	1. Problem Resolution 2. Training – should be done through Professional Development Program or mini-grant process whenever possible 3. Complex Report Generation

3. Technology Support Plan: XXXXX Department

Significant Departmental Applications

	Support Responsibilities		
	Department	**IT**	**Vendor or Other**
			Outside Entity
New System-Future	1. Training of Daily Users 2. Day-to-day operations 3. Understanding of System and Business Rules 4. Data Ownership 5. Report Creation/Generation 6. Application Security a. who has access to what in the applications b. add/delete users 7. Initial Problem Diagnosis 8. Problem Resolution 9. Vendor Relationship 10. Printer Configuration	1. Backups 2. Troubleshooting Assistance 3. Server Administration 4. Package and Install application on PC 5. Network/Server Security 6. Database Administration 7. Coordinate connectivity issues with vendor 8. Software maintenance and licensing costs 9. Server maintenance and replacement costs	1. Develop Application Upgrades 2. Apply App Upgrades to Development 3. Problem Resolution 4. Develop database upgrades and changes 5. Coordination connectivity issues with IT Division

4. Technology Support Plan: Other Applications

List Applications Here

	Support Responsibilities		
	Department/Liaison	**IT**	**Vendor or Other Outside Entity**
	1. Provide opportunities for training of liaisons to support application 2. Provide opportunities for training of department staff on application 3. Initial diagnosis of problems and reporting to entity which supports the application if additional help needed. 4. Consult with ITS if needs for applications change 5. User and application security, if exists	1. Consulting on applications to meet Town needs 2. Packaging, installation, upgrade and configuration of applications on departmental desktops, laptops and servers as applicable 3. Server maintenance, where applicable 4. Internet connectivity and browser 5. Data backup for data stored on central disk storage 6. Coordination with outside entities to provide needed connectivity 7. Installation and problem resolution of telephone lines and data circuits, where applicable 8. Purchase and maintenance costs for licenses 9. Contracts for and cost of maintenance, support and problem resolution services 10. Contracts for and cost of training services outside the Professional Development or mini-grant process.	1. Problem Resolution 2. Training – should be handled through the Professional Development program or mini-grant process whenever possible.

Appendix H: Monthly Systems Checklist (Sample)

This sample list is not meant to reflect your current environment

Network Health Review for XXXXX

Conducted by: <<Technician>> Date: XX/25/2013 Client Notes:

Server : SERVER01	**IP Address:** 10.0.XX.XX	
Server Name and OS Ver	SERVER01 Win Server 2k3 R2	
Check Microsoft event logs	☒ Y ☐ N ☐ N/A	Errors in logs ☐ Y ☒ N
Domain controller	☒ Y ☐ N	DCDiag ☒ Y ☐ N NetDiag ☒ Y ☐ N
User maintenance needed	☐ Y ☒ N	
Disk space check	☒ Y ☐ N	
Run defrag	☐ Y ☒ N ☒ DECLINED	C: 45% Up 1% D: 29% Down 1%
Reviewed HP Maintenance Logs	☐ Y ☒ N ☒ N/A	
Reviewed Maintenance Logs	☒ Y ☐ N	
Run Windows update	☒ Y ☐ N ☐ DECLINED	
Volume space & purge	☐ Y ☒ N	
Is this server backed up	☒ Y ☐ N	
Server: SERVER02	**IP Address:** 10.0.XX.XY	
Server Name and OS Ver	SERVER02 Win Server 2k3 R2	
Check Microsoft event logs	☒ Y ☐ N ☐ N/A	Errors in logs ☒ Y ☐ N
Domain controller	☐ Y ☒ N	DCDiag ☐ Y ☒ N NetDiag ☐ Y ☒ N
User maintenance needed	☒ Y ☐ N	
Disk space check	☒ Y ☐ N	
Run defrag	☒ Y ☐ N ☐ DECLINED	C:54 % Down 11%
Reviewed HP Maintenance Logs	☒ Y ☐ N ☐ N/A	
Reviewed Maintenance Logs	☒ Y ☐ N	
Run Windows update	☐ Y ☒ N ☐ DECLINED	
Volume space & purge	☐ Y ☒ N	
Is this server backed up	☐ Y ☒ N	

Server: EXCHANGE01	**IP Address:** 10.0.XX.XZ			
Server Name and OS Ver	EXCHANGE Win Server 2k8 R2			
Check Microsoft event logs	☒ Y ☐ N ☐ N/A		Errors in logs	☒ Y ☐ N
Domain controller	☐ Y ☒ N		DCDiag ☐ Y ☒ N NetDiag ☐ Y ☒ N	
User maintenance needed	☐ Y ☒ N			
Disk space check	☒ Y ☐ N			
Run defrag	☐ Y ☒ N ☐ DECLINED		C: 13% Down 3% L: ame	
Reviewed HP Maintenance Logs	☐ Y ☐ N ☒ N/A			
Reviewed Maintenance Logs	☒ Y ☐ N			
Run Windows update	☐ Y ☒ N ☐ DECLINED			
Volume space & purge	☐ Y ☒ N			
Is this server backed up	☒ Y ☐ N			
Backup/Restore System	**Location:** SERVER01			
Software Name and Ver	Symantec Backup Exec 2010 R2			☐ N/A
Clean Tape Drive	☐ Y ☒ N			
Backup Successful	☒ Y ☐ N		Date of Last Good	1/19/2012
Test Restore Successful	☒ Y ☐ N ☐ DECLINED		Restore	Success 1/19/2012
Cmd Patches Applied	☐ Y ☒ N ☐ DECLINED ☐ No New		Version	Rev. 4164
Errors in Log	☒ Y ☐ N			
E-Mail System	**Domain:** COMPANY.local			
System Name and Ver	EXCHANGE01 v8.2.176.21			
Check log files	☒ Y ☐ N		Errors	☒ Y ☐ N
User maintenance needed	☐ Y ☒ N			
Verify GWIA relay setting	☐ Off ☒ On		Information Store Size: 12GB Up 1GB	
Check GWIA statistics	☐ Y ☒ N			
Database rebuild/index	☐ Y ☒ N ☐ DECLINED			
Apply patches from MPL	☐ Y ☒ N ☐ DECLINED ☐ No New			
Uninterrupted Power Supply				
Model	Liebert GXT2-1000RT120			
UPS operational	☒ Y ☐ N			
Communication software	☐ Y ☒ N	IP Address: 10.0.XX.XA		
Servers connected	☒ Y ☐ N			
Load check	☐ Y ☒ N	Battery Run-time: 22 minutes		
Virus Protection	**Distribution Server:** FS01			
Vendor and OS Ver			Expires 2-15-2013	
Server Engine update	☒ Y ☐ N		Version	9.5

Server Sigs update	☒ Y ☐ N	Version	9.5
Desktop Engine update	☒ Y ☐ N	Version	9.5

Switch Name:	**IP Address:** 10.0.XX.XB
Model and OS Ver	
Failed Port Indications?	☐ Y ☒ N
Excessive Collisions?	☐ Y ☒ N
Heat / Dust Issues?	☐ Y ☒ N

Switch Name:	**IP Address:** 10.0.XX.XC
Model and OS Ver	Dlink 2950
Failed Port Indications?	☐ Y ☒ N
Excessive Collisions?	☐ Y ☒ N
Heat / Dust Issues?	☐ Y ☒ N

Firewall Name:	**IP Address:** 10.0.XX.XD	
Model and OS Ver	Watchguard Firebox X550	
Checked logs?	☒ Y ☐ N	
Failed Port Indications?	☐ Y ☒ N	
Other?	N/A	
WatchGuard LiveSecurity Up to Date	Expires Jan-2012	☒ N/A

Environment check		
Heat OK?	☒ Y ☐ N	Temperature: 68
Dust OK?	☒ Y ☐ N	
Humidity OK?	☒ Y ☐ N	
Fire Suppression Present?	☒ Y ☐ N	
Other	N/A	

Priority Key: (A) – Urgent; (B) – Medium; (C) – Low; (I) – Informational ;(V) – Vendor's Follow Up; (U) – Client's Follow Up

A**ction Key:** (Y) -Yes, item approved for Vendor remediation (N)- No, item not approved for Vendor remediation (O)- Client not available, item forwarded to account manager.

RECOMMENDATIONS SUMMARY		
Priority	**Action**	**Description**
		SERVER01
I		18 Updates installed, Server will require a reboot to complete update installation.
		Some shares are offline due to the folders being removed. These shares should be deleted: Employee Benefits, XXX Documents, GoFast.
		XXX-2012, ACCT-2012 should have the Master Browser Service disabled.
		SERVER02
I		No issues detected.
		EXCHCHANGE01
I		12 Updates installed, Server will require a reboot to complete update installation.
B		Review memory crash dump settings.
		Antivirus scan
B		Manual update of all Server Components performed. Manual Scan of all remote WS/machines recommended.
		Backup System
I		Restore conducted from LTO000005 with success.
		Updates to Backup Exec are available.
		Backup Failure on 5/22 should be investigated.

Appendix I: Business Continuity Plan / Disaster Recovery Plan

Process Overview

The Town should develop an appropriate DRP/BCP strategy. The developed DRP/BCP should take into consideration all of the systems used across the Town. The development of a BCP/DRP should be considered as long term project as it requires considerable planning and implementation.

Business Continuity Planning (BCP) is the process of developing and documenting arrangements and procedures that enable an organization to respond to an unplanned event that lasts for an unacceptable period of time and return to performing its critical business functions after an interruption as quickly and efficiently as possible.

On completion of this process, the BCP would establish defined responsibilities, actions, and procedures that will guide the recovery process of computer, communication, and network devices in the event of an unexpected and sudden interruption of critical technology services. The plan should be structured to attain the following objectives:

- Establish defined responsibilities, actions and procedures to recover the technology resources in the event of an unexpected and unscheduled interruption.
- Recover the technology services and/or systems within the Recovery Time Objectives established and accepted by management.
- Provide an orderly, efficient, and tested recovery approach designed to return critical systems back to minimum acceptable operating levels.
- Minimize the impact on operations with respect to dollar losses and operational interference.
- Demonstrate to stakeholders and the community that the Town has actively maintained and tested a Business Continuity Plan.
- Take into account and manage contractual obligations that could be impacted by any interruption.

A complete BCP process should addresses, at a minimum, the following critical business resources: (a) People; (b) Technology; (c) Facilities; (d) Vendors; and, (e) Customers/Departments and other stakeholder groups.

Approach

The desired approach is to begin with a core area, such as information technology, and begin planning in segments to assure the most critical areas of the Town are addressed first. Therefore this BCP document focuses primarily on availability and recoverability of critical technology resources and provides recovery mechanisms for each business process which relies on technology. The Business Continuity Planning process includes the following major components.

1. **Internal and External Threat Assessment:** Identifying events that can adversely affect the delivery of Information Technology services, including the likelihood of their occurrence, the severity of the impact on the Town, and the ease with which the threat can be predicted or detected.

2. **Business Impact Analysis:** Helps to define recovery requirements by determining the criticality of applications and systems and the impact their loss will have on key business processes following a disaster.
3. **Data Recovery Assessment:** Identify the requirements to recover the data to the last known acceptable state.
4. **Recovery Time Objectives (RTO):** Defined in hours/days as the elapsed time between the points of the interruption up to the point where the system must be functional. The RTO may be by the applications, servers, the processes, or the recovery group (infrastructure, core services, etc.)
5. **Disaster Assessment and Declaration:** Identifying the process of declaring a situation as an emergency.
6. **Recovery Strategies:** Identifying the communication process and the assembly of the right team members to start the recovery process.
7. **Recovery Team:** Identifying key members responsible for the various areas of the recovery process along with detailed contact information.
8. **Recovery Team Responsibilities:** Identification of the roles and responsibilities for the key individuals involved during the recovery process.
9. **Emergency Recovery Procedures (Disaster Recovery Plan):** Identification of the various steps involved to attain recovery. This process would be based on nature of disaster and types of system outage.
10. **DRP Training & Maintenance Procedures:** Identification of training process / materials that all recovery team (primary and secondary) members should undergo / review.
11. **Update Process:** Identify the process and members responsible for the upkeep of this document.

In summary, the DRP/BCP may be developed and implemented with a multiphase approach. Using the DRP/BCP as a blue print, the network and server infrastructure should be evaluated and modified accordingly so as to meet the objective of the DRP/BCP.

A BCP should be treated as “a living document” in that it is never truly finished. It should be regularly updated as conditions, facilities, equipment, staff, and any number of additional factors evolves.

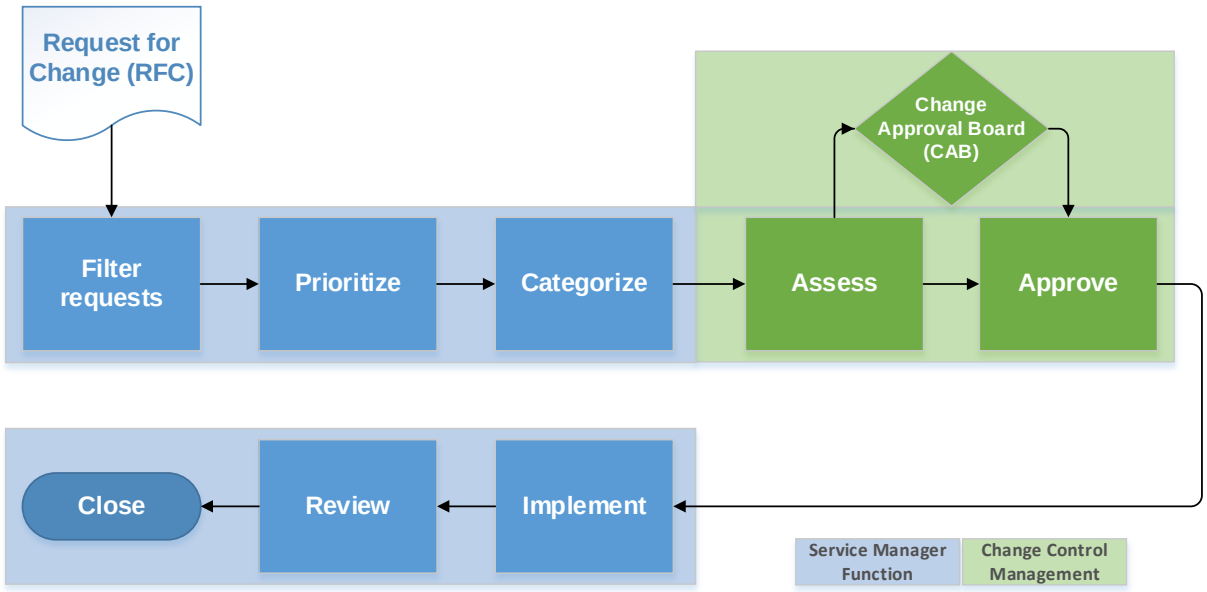
Appendix J: Change Management Process

Change Management Process

The objectives of a change management process are as follows:

- Provide a structured process for planning, scheduling and implementing changes
  - Identify and document the type of change
  - Identify direct and indirect impact to systems
  - Track / Measured by number of changes
  - Performed within the scope of the approval process
  - Implemented within their designated windows
  - Implemented successfully
- Minimize downtime
  - Measured by downtime resulting from unapproved, unscheduled or unsuccessful changes

The typical process for change management is shown below:



RFC: Request for Change initiated. Tickets submitted to request a change to systems, infrastructure, hardware, software, or other services defined or provided.

CAB: Change Approval Board. The Change Approval board (CAB) delivers support to the Change Management team by approving requested changes and assisting in the assessment and prioritization of changes. This body is generally made up of IT representatives that include: the Change Manager, User managers and groups, technical experts, and possible third parties (if required).

Service Manager: Typically the MSP, but if instituted internally will the RFC owner.
Change Control Management the Bank approving the change.

A change management template may consist of the following:

Change Request Form (*example*)

SUBMITTER - GENERAL INFORMATION				
Change Req#				
Submitter Name				
Brief Description of Request	☐ Bank ☐ Client:_____ ☐ Other:			
Change Req. Initiator				
Date Submitted				
Date Required				
Priority	☐ Low	☐ Medium	☐ High	☐ Mandatory
Reason for Change				
Who will the change affect?	☐ Information Technology resources ☐ Business Units ☐ Departments ☐ Schools			
What will the change affect?	☐ Sites/locations ☐ System availability ☐ Application availability ☐ Business cycles ☐ Processes/practices ☐ Outage duration`			
Other Artifacts / Systems Impacted (What is impact on?)	☐ Other scheduled changes ☐ System performance/capacity ☐ Other resources (manpower, security, etc.)			
Assumptions and Notes				
Contingency Plan / Rollback Plan	Must be defined in the event the change does not go as planned, what is the rollback ability / plan for the change.			
Attachments or References	☐ Yes	☐ No		
	Link:			

INITIAL ANALYSIS	
Hour Impact	
Duration Impact	
Schedule Impact	
Comments	
Recommendations	

CHANGE CONTROL BOARD – DECISION				
Decision	☐ Approved	☐ Approved w/Conditions	☐ Rejected	☐ More Info
Decision Date				
Decision Explanation				
Conditions				

{Thank You!}

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For more information contact:

Dennis Bagley, Partner
(248) 223-3348
dennis.bagley@plantemoran.com

plantemoran.com