Town of Brimfield

IT Planning and Investment Best Practice

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EOTSS | Executive Office of Technology Services & Security

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Brimfield Town Hall[1]

Executive Summary

In the beginning of 2018, the Town of Brimfield signed a Community Compact Cabinet agreement with the Baker-Polito administration. The Town selected Information Technology Strategic Planning best practice to develop a comprehensive IT Strategy Planning to better utilize technology investments with short and long-term organizational priorities.

The Town of Brimfield is located in Hampden County, Massachusetts. Incorporated in 1731, the Town is known for its antique flea markets, which happens throughout a year, and nature preservations surrounding the Town. Today, the Town's population is 3,609 and the median household income is $86,523.[2]

[1] Phelan, John. Town Hall, Brimfield Massachusetts. Wikimedia Commons. Accessed August 27, 2019. https://commons.wikimedia.org/wiki/File:Town_Hall,_Brimfield_MA.jpg
[2] Brimfield town, Hampden County, Massachusetts. American Fact Finder. U.S. Census Bureau. https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

With growing needs and challenges involving information technology, the Town requested a best practice guidance on how to approach technology investments. Prior to the best practice guidance, the Town received a diagnosis on overall status of the Town's IT posture and performance with Free IT Health Check, which is a health check services provided by Akuity Technologies, providing a high-level assessment of current IT assets for cities, towns, or school districts in the Commonwealth.

Based on the findings of Free IT Health Check, the Town was able to identify multiple deficiencies involving the Town's IT infrastructure. In order to move forward with those findings, the Town requested guidance on how to mitigate and improve the areas of greatest need.

There are two objectives for this strategic planning. The first objective is to mitigate known vulnerabilities of the Town's IT infrastructure by prioritizing IT projects based on the Town's needs, ensuring the Town to effectively conduct business and provide services for constituents with minimal IT-related disruptions. The second objective is to formulate a plan for consolidated and standardized IT-related expenditures and practices, including:

- Budget
- Procurement
- Training

Through a sense of purpose, collaboration and a commitment to continuous improvement, the Town seeks to create a stable technology infrastructure and address long-term planning needs.

Improvements & Risk Mitigation

Having a functional IT infrastructure is paramount to many organizations today. With rapid development and evolution of technology, the corresponding risks and cyber threats are also increasing every day. Despite the difficulties and constraints, the Town took steps to improve and mitigate identified vulnerabilities associated with the Town's IT infrastructure.

With aging hardware and outdated software, such as workstation computers, operating system, and others, the Town was exposed to potential cyber incidents. Under the direction of the IT Manager, the Town proceeded to replace critical hardware and software to ensure operational capacity for Town departments. Along with replacement of hardware and software, the Town reviewed their operations and made the necessary changes in accordance with the CIS controls.

The Town has a combination of fiber network and cable-based service connecting different Town buildings. Also, the Town leveraged the Community Compact IT Grant Program to assist with a fiber expansion project, allowing for an enterprise approach to network management. Once the Town is fully integrated with fiber network, it will enable the Town to centralize the network management, which will enhance efficiency and security of the Town network. Furthermore, this fiber expansion will also create an opportunity for improved backup operations, including an offsite backup system.

Planning for the Future

Since the health check assessment, the Town has been proactively engaged in technology investments to provide a more secure and safe IT environment. Now that the Town is in a better technology position, long-term planning is critical for future maintenance, upgrades, and protection.

Budget

Allocating budget can prove to be difficult for organizations with limited resources, therefore, it is important to plan out IT-related expenses for efficiency and sustainability. In the past, the Town departments have independently handled IT-related expenses, but this practice has created unexpected consequences for the Town, such as financial burden and tendency to overextend the lifecycle of IT hardware and software.

Currently, the Town has computer and maintenance budgets, but this has not been consistent across all Town departments. In order to mitigate this inconsistency, the Town may consider a

centralized budgeting practice. In doing so, there are several benefits, such as consistency across the budget process and better supportability and compatibility of Town IT equipment.

	Advantages	Disadvantages
Centralized Budget Process	I. Consistent budget allocation and spending process II. Consistent vendor choices and services; better supportability and compatibility III. Consistent information for IT asset inventory	I. Slower procurement process II. "One-size-fits-all" approach to IT spending; may overlook unique needs of Town departments
Decentralized Budget Process ("Status Quo")	I. May be faster in procurement in each Town departments based on their needs II. Flexibility in vendor choices and services	I. May create difficulty or complication in supportability and compatibility II. Inconsistent spending may occur III. Possible inconsistency in IT asset inventory

The Town has recently developed an IT asset inventory, which will be helpful in budgetary decision based on the details of all IT asset. In fact, this also accounts for total IT spending of the Town by identifying inefficiencies in different Town departments and items that may not be discoverable on the Town network, such as mobile phone, laptops, tablets, etc.

Furthermore, compiling an IT capital investment plan may provide a guideline for the Town for long-term investments in the future. In order to create a sustainable capital plan, all participants in the capital planning process need to consider all capital needs, assess fiscal capacity, plan for debt issuance, and understand impact on reserves and operating budgets.[3]

[3] Capital Planning Policies Best Practice. Government Finance Officers Association. March 3, 2020. https://www.gfoa.org/print/503

In order to take more sustainable approach, it may advisable to consider a plan to replace 20 percent to 25 percent[4] of Town's computers annually as a part of the Town's operational budget. Ongoing replacement of computers will ensure the equipment is more current, supportable, and secure. This also provides more consistency for budgetary purposes as the Town will no longer be burdened with having to spend large sum of capital on replacing all computers at once.

Procurement

Closely tied with budgetary process, procurement process plays a significant role in technology investments. Currently, the Town's IT procurement process is exclusively handled by an IT professional, accounting for all types of IT asset maintenance and acquisition. However, there has been some inconsistent procurement practices that deviated from established procurement process, potentially bringing negative implications. Going forward, it may be advisable to formalize the procurement process, which involves consulting with IT Manager for procurement decisions to streamline the process from planning, purchase, and maintenance.

As a part of procurement, the Town may have to decide on implementing either cloud-based software or on-premise software in the future. While the Town is already utilizing some cloud-based software in some Town departments, having a set of criteria for choosing either *cloud-based* software or *on-premise* software depending on the needs of various Town departments may help in deciding which vendor or service may be appropriate.

[4] 20% rate will replace all Town computers in 5 years and 25% rate will replace all Town computers in 4 years.

Cloud-Based Software	Cost	Security	Customization	Implementation
Advantages	Predictable cost over time (cheaper upfront cost & no additional hardware investments)	Vendor responsible	Stable updates and on-demand changes from client	Less time for implementation
Disadvantages	accumulated cost may exceed considering system's lifecycle	Client has a little say in security preferences	Not much room for customization in general	Less time for implementation due to less customization
On-Premise Software	Cost	Security	Customization	Implementation
Advantages	Reduced initial pricing	Client Responsible	More room for customization	More control for client over the implementation
Disadvantages	Higher upfront cost (may have to pay for additional hardware)	Expertise in practicing proper data security protocols required	Vendor updates may create conflict with customizations	Significantly longer implementation time

Training

Even the state-of-the-art IT infrastructure can be breached if wrongly managed or leveraged. In order to prevent this, investment in end user training is equally important for effective enterprise security and risk management. In this regard, the Town is now involved in Cybersecurity Awareness Grant Program, which is a competitive grant program designed to support local government efforts to improve overall cybersecurity posture through end-user training, evaluation, and threat simulation. By going through computer-based training, Town employees

will be better aware of standard practices what to look out for and what not to do with Town IT resources.

It may be advisable to consolidate the use of Town-sanctioned software and user accounts. While Town-sanctioned accounts and software can be recovered in cases of cyber incidents and departure of Town employee, however, it may be difficult to maintain and control information from any accounts and software that are not directly associated with the Town. With that said, use of personal accounts to conduct Town business is strongly discouraged which may produce unexpected security and public records implications.

Conclusion

With all changes and improvements made so far, the Town is in better position to further consolidate the overall IT posture, making incremental improvements over time. For procurement, the Town initiated a centralized procurement process, which resulted in acquiring new hardware directly through IT department. This will enable the Town to make hardware changes, upgrades, and replacements consistent with budget allocations and compatibility issues. Moreover, the Town also made a significant investment for switching infrastructure to fully leverage newly installed fiber network across various Town departments.

With the idea of regional collaboration, the Town is also considering joining regional cyber working group in the Commonwealth to be actively engaged in what is happening in IT world around local government.