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Wayland IT Status and Strategic Plan Review

August 17, 2020

Information Technology Department

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IT Director



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Our Mission

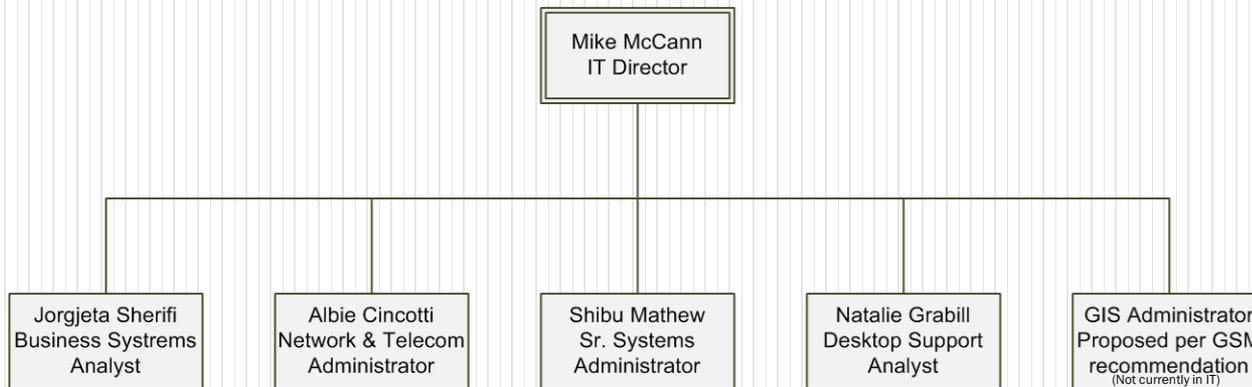
- Provide Town Employees with the operational and decision support tools needed to effectively and efficiently transact day to day business as well as predict and plan for future needs.
- Provide residents, taxpayers, volunteer board members and other stakeholders with easy access to timely, relevant and accurate information.
- Allow the public to transact business with the Town with the minimum possible burden
- Protect the Town's information assets from loss and disclosure to un-authorized parties



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Who we are





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What we do

- Operate and maintain the Town-Wide Telephone System
- Operate and maintain the software and applications used by Town Departments in particular the key enterprise applications.
- Maintain the application servers for the School Dept.
- Operate the town wide fiber optic network
- Maintain the wired and wireless networks in all town buildings including all schools
- Operate the servers and storage systems located at the High School and the Public Safety Building



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What we do (cont.)

- Maintain all of the virtual and physical workstations used by town employees and school administrative staff
- Conduct regular backups of all valuable data
- Provide support to all end users whether they are town employees, board and committee members or residents.
- Provide training to employees on the use of software applications, phones and hardware
- Maintain cybersecurity defenses including network firewalls, antivirus software, patch management and associated monitoring systems



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2015 RSM Report

In October of 2015 the Town commissioned a report from RSM LLP

This report assessed Town IT operations and made recommendations regarding:

- Organization
- Infrastructure
- Business Applications/Software



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2015 RSM Report

Select major accomplishments tied to the 2015 RSM Report

- Reorganization of department
- Replacement of aging virtualization infrastructure
- Replacement of firewalls
- Migration to hosted email provider
- Replacement of Middle School phones, wired and wireless network
- Implementation of a state of the art multistage backup and recovery plan with vastly reduced RPO and RTO's
- Migration of water and wastewater billing to Munis



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2015 RSM Report

Major tasks yet to be completed

- Document Management Solution
- Implement e-Permitting system
- Fleet Management/GPS Solution
- Replace end of life network equipment
- Automate payroll processing
- Implement Employee Self Service
- Upgrade Library phones
- Migration of RE/Excise billing to Munis



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Current Status Overview

- State of emergency has unsurprisingly created challenges.
 - Providing live access to public meetings via both WayCam and Zoom has been a major success. Wayland is one of very few if not the only town in MA providing this level of access
 - Enabling a remote workforce in an organization that had virtually no history of remote work was a struggle. Our virtual desktop environment was a great asset in accomplishing this securely. Employees were very helpful and understanding as we worked through this deployment
 - IT like other departments has faced staffing difficulties



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Current Status Overview

- Real Estate/Excise tax billing migration to Munis was slated for completion on 6/30/20. It has been placed on hold. Staffing challenges in all four affected departments made a timely, high quality deployment with 100 percent data conversion accuracy impossible. The next realistic window is the third tax bill on 3/31/21
- E-permitting system deployment is underway. The first stage of this 18 month long project is scheduled for completion 9/18 when the first Building Department “Express permits” will be released for small projects that do not require review



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Current Status Overview

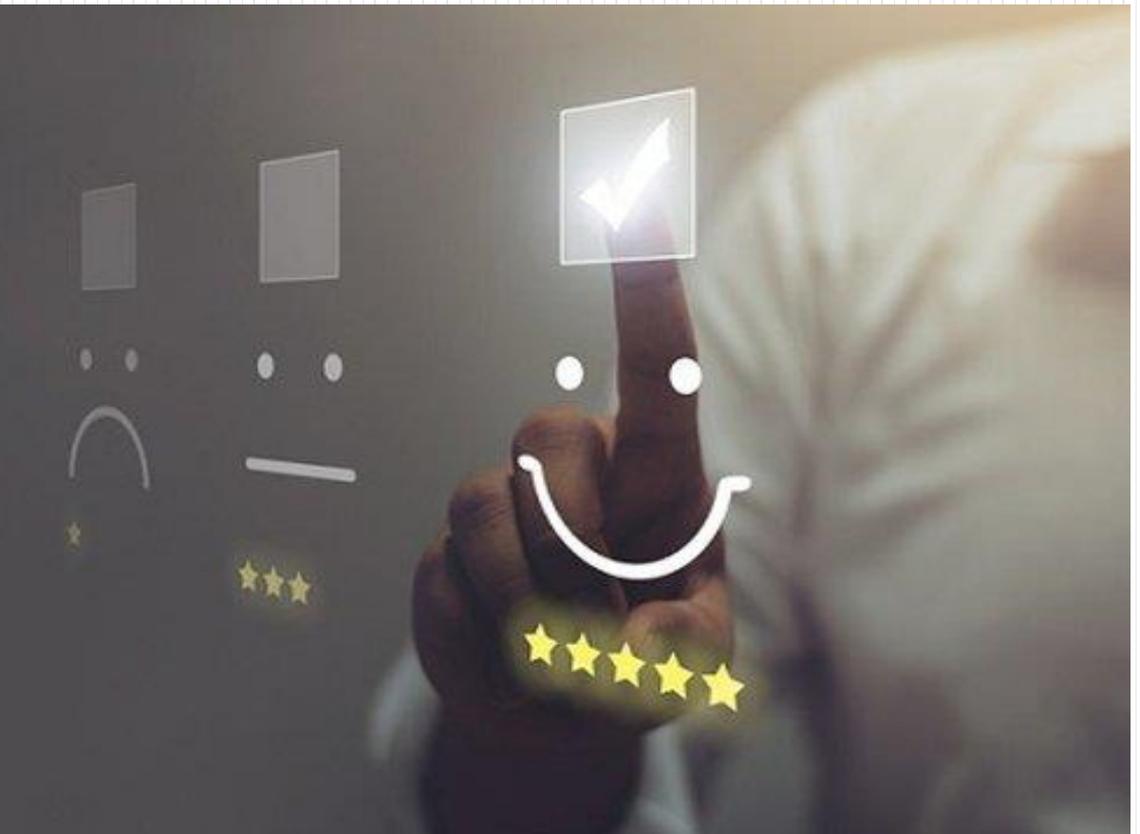
- Employee Self Service Munis module is in deployment. The first stage, electronic paystub and W-2 access is slated for deployment in October's first pay period
- Cyber threats are relentless. Spearfishing attacks are specifically targeting municipalities. We are continually working to improve our defenses. Additionally we are continually working on improving our ability to rapidly recover from a ransomware attack



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The way forward!

All IT strategy decisions are guided by the desire to provide a frictionless customer service experience for our internal and external customers





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Getting there

- Complete the recommendations in the RSM Report
- Go Paperless!
- Replace end of life CAD/RMS system at public safety
- Continue to improve cybersecurity defenses
- Improve disaster preparedness posture to better handle lengthy disasters
- Web site – modernize, increase usefulness and ease of use for content consumers and creators
- Create redundant paths in critical areas of town wide fiber network
- Develop self help tools for end users



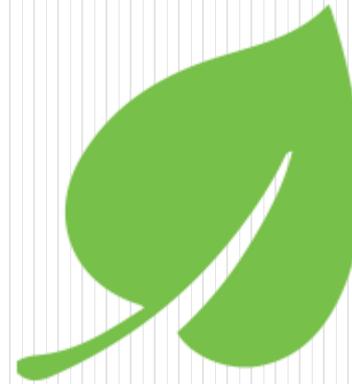
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Getting there (cont)

- Evaluate and prepare for potential desktop computing model change between now and Windows 10 end of life in 2025
- Evaluate and prepare for critical datacenter end of service life dates beginning in 2023
- Evaluate and potentially deploy centralized video monitoring to protect town assets



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Going Paperless

- Where statute and regulation permit move towards becoming a paperless operation. Where necessary ask MMA to push for legislative change.
 - Offer opt-in true e-billing for all bills issued by the town reducing mailing and processing costs while providing convenience to taxpayers.
 - Make the entire purchasing and accounts payable processes paperless. Quotes, purchase orders and invoices are all exchanged electronically. Invoice payment is made via ACH. We own the software to do this now.
 - Move to strictly electronic plan intake and review. This is becoming standard in the construction industry. The tools and hardware exist to ease plan review, markup and commenting. Lets try to stop the growth of paper plan storage and speed the plan review cycle.
 - Take the e-Permitting system implementation we have started over the finish line
 - Implement a document management system to efficiently store and retrieve our vast paper files.



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Replace end of life CAD/RMS system

- Although unplanned, this requirement presents opportunities
 - Existing system is antiquated and not getting serious software development attention
 - New products have entered into the Massachusetts marketplace
 - Solutions with much better and user friendly reporting and data analysis tools exist
 - Mobile components contain features that improve situational awareness, can improve response times and increase the safety of first responders and the public



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Improve cybersecurity defenses

- Nothing causes friction in customer service like a good system compromise. Just ask Garmin
- This is a continual work in progress.
- Our employees are our most important line of defense
- Wayland employees are outstanding in attentiveness and willingness to report something that doesn't seem right or a mistake they think they might have made
- We need to formalize an incident response plan to minimize the damage and speed the recovery



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Improve disaster preparedness posture

- Improve remote workforce enablement
 - Provide key employees with the hardware software and training to securely continue work from home
 - Permanently implement softphones to allow calls to the Town Building to be answered as normal
 - Continue to leverage our virtual desktop environment to allow this all to take place while not allowing potentially sensitive data to bleed past the network edge.
 - Implement a Disaster Recovery as a Service (DRaaS) system to allow operations to be brought on line in a new location widespread damage to assets occurs



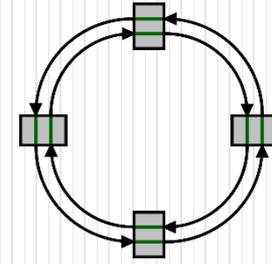
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Web site – modernization

- Current web site has significant weaknesses
- Released in late 2017
- Relies on a platform and basic design common to many Massachusetts town websites.
- Content management system is difficult to use and as such contributes errors or lack of intended behavior
- We should solicit community feedback on desired improvements
- Custom designs can be pricey. Boston spent \$880K for their 2016 redesign and costs do not scale linearly with budget or population



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Redundant paths in town-wide Fiber Net

- Fiber Network that interconnects all town buildings has no physical path redundancy
- Building locations and geography made this a cost driven decision
- Two cable cuts have occurred in the past 20 months.
- A ring topology should be created which includes most major town buildings as well as the Reeves hill transmitter site.
- Remaining facilities can be covered by lower capacity backup leased lines or vpn connections.



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Video Monitoring

- A number of disjointed systems already exist
- No centralized monitoring and recording platform exists
- Only used for after the fact evaluation of “what happened”
- Should be expanded to cover all important town assets
- Configure to allow for pre-emptive protective action e.g. after hours motion detection



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Conclusion

We'll never make bad IT decisions if we always make maximizing the customer experience the top priority.

Appendix 1: Current and Future Project Timelines from FY20 5 year capital plan



| | |
|------------------------------|--------------------------------------|
| Funding Appropriated | █ |
| Funding Not Yet Appropriated | █ |

