# WILSONVILLE
## OREGON

# INFORMATION TECHNOLOGY STRATEGIC PLAN

*2019 UPDATE*

# Table of Contents

# Introduction

The year 2018 brought significant change for IT staff.  The City Manager moved the division, which was previously under the Finance department, to its own Information Technology (IT) department within the City.  This change allowed the IT Manager to move into the IT Director position, thus giving all City departments a direct path of communication for all related technology projects.  The IT department is staffed with an IT Director, GIS Manager, Network Administrator, Senior Systems Analyst, and Information Systems Assistant I.

# Executive Summary

The Information Technology Strategic Plan was adopted in September 2016.  As part of the ongoing process to maintain the plan, IT staff, along with key stakeholders, met in January of 2019 to assess current and future business needs, budget, and the overall strategic fit to the City's overarching mission to: ***"To protect and enhance Wilsonville's livability by providing quality service to ensure a safe, attractive, economically vital community while preserving our natural environment and heritage."***

The Information Technology Strategic Plan Update 2019 focuses on the short, medium, and long term recommendations, as well as those ongoing and completed prior to this update.  It should be noted that the recommendations have been adjusted to better reflect a timeline of the stakeholder findings.  Each recommendation is outlined according to the table below, with an addition of a "2019 Update" section, that notes any updates or changes.

| Item | Description |
|---|---|
| ***Strategic Recommendation*** | Mindboard's recommendation associated with the corresponding strategic theme |
| ***Gaps Addressed*** | Gaps associated with the strategic area. |
| ***Action Steps*** | A sequence of steps that must be taken, or activities that must be performed well, for the strategic recommendation to succeed. |
| ***Prerequisite(s)*** | The action step or the activity that should have been completed prior to implementing the strategic recommendation. |
| ***Stakeholders*** | All parties that are involved in implementing the strategic recommendation. |

| | |
|---|---|
| ***Resources*** | Employees responsible for undertaking the action steps/activities defined in the plan. |
| ***Estimated Cost*** | Estimated costs for implementing the recommendation based on industry research and experience. Please note that cost estimates from Vendors were not directly obtained. |
| ***Impact/Comments*** | Additional comments associated with the corresponding strategic recommendation. If applicable, any Council Goals this project supports will be noted here. |
| ***Previous Updates*** | Updates or changes made in 2017 and 2018. |
| ***2019 Update*** | Updates or changes made in 2019. |

## Project Recommendations Timeline (updated 2019)

| Project # | Short Term | Project # | Medium Term | Project # | Long Term |
|---|---|---|---|---|---|
| 1. | Streamline IT Procurement Process | | | | |
| 5. | Implement Event, Facility Booking and Volunteer Management System | | | | |
| 8. | Implement Scheduling Software at SMART | | | | |
| 9. | Develop Disaster Recovery Plan | | | | |
| 12. | Munis - Financial ERP System Implementation | | | | |
| 14. | EnerGov - Permitting ERP System Implementation | | | | |
| 15. | Promote Use of GIS as an Organizational Priority | | | | |
| 22. | Implement Integrated Security Access System | | | | |
| 25. | Replace VoIP Telephone System | | | | |
| 37. | Contacts Database | | | | |
| 38. | Legal Case Files Software Solution | | | | |
| 39. | Community Engagement | | | | |
| | | 11. | Use Cartegraph as an Enterprise Asset Management System | | |
| | | 20. | Implement Integrated Time Tracking and Payroll System-Electronic Timesheets | | |
| | | 27. | Modernize Fare Collection System at SMART | | |
| | | 35. | Fuel Management Software | | |
| | | | | 19. | Implement Project Management System |
| | | | | 23. | Implement centralized, Integrated Customer Database and Portal |
| | | | | 24. | Implement a Business Intelligence (BI) Tool |
| | | | | 26. | Implement Virtual Desktops and Enhanced VPN Solution |
| | | | | 28. | Consider Implementing Automated Meter Reading (AMI) Infrastructure |

| | **Ongoing** |
|---|---|
| 10. | Develop IT Policies and Procedures |
| 13. | Implement Laserfiche as City Wide Electronic Document Management System |
| 29. | Continue Standardizing IT Environment |
| 30. | Establish Periodic IT Skill Gap Review Process |
| 31. | Continue Enhancing Audio/Video and WilsonvilleTV Infrastructure |
| 32. | Implement Municipal Fiber Program |

| | **Completed** |
|---|---|
| 4. | Hire IT Assistant |
| 3. | Develop Fiber Business Plan |
| 7. | Upgrade Exchange - Evaluate Cloud Based Email Alternative |
| 34. | Office/OS Upgrade |
| 33. | Telemetry Upgrade |
| 2. | Streamline IT Funding |
| 6. | Combine City Web Sites and Social Media Accounts |
| 18. | Implement Email Archiving and E-Discovery Solution |
| 36. | Implement IT Auditing and Security Solutions |
| 16. | Combine Payment Processing Systems and Merchant Accounts-Citizen Portal |
| 21. | Implement a Collaboration System (Cloud Based?) |
| 17. | Implement Enhanced Interactive Voice Response (IVR) Solution |

## Project Recommendations List by Project Number (updated 2019)

| Project # | Project Recommendation Name | Identification Date | Completion Date |
|---|---|---|---|
| 1 | Streamline IT Procurement Process | 2016 | |
| 2 | Streamline IT Funding | 2016 | 2018 |
| 3 | Develop Fiber Business Plan | 2016 | 2017 |
| 4 | Hire IT Assistant | 2016 | 2016 |
| 5 | Implement Event, Facility Booking and Volunteer Management System | 2016 | |
| 6 | Combine City Web Sites and Social Media Accounts | 2016 | 2018 |
| 7 | Upgrade Exchange - Evaluate Cloud Based Email Alternative | 2016 | 2017 |
| 8 | Implement Scheduling Software at SMART | 2016 | |
| 9 | Develop Disaster Recovery Plan | 2016 | |
| 10 | Develop IT Policies and Procedures | 2016 | Ongoing |
| 11 | Use Cartegraph as an Enterprise Asset Management System | 2016 | |
| 12 | Munis - Financial ERP System Implementation | 2016 | |
| 13 | Implement Laserfiche as City Wide Electronic Document Management System | 2016 | Ongoing |
| 14 | EnerGov - Permitting ERP System Implementation | 2016 | |
| 15 | Promote Use of GIS as an Organizational Priority | 2016 | |
| 16 | Combine Payment Processing Systems and Merchant Accounts-Citizen Portal | 2016 | Retired 2019 |
| 17 | Implement Enhanced Interactive Voice Response (IVR) Solution | 2016 | Retired 2019 |
| 18 | Implement Email Archiving and E-Discovery Solution | 2016 | 2018 |
| 19 | Implement Project Management System | 2016 | |
| 20 | Implement Integrated Time Tracking and Payroll System-Electronic Timesheets | 2016 | |
| 21 | Implement a Collaboration System (Cloud Based?) | 2016 | 2019 |
| 22 | Implement Integrated Security Access System | 2016 | |
| 23 | Implement centralized, Integrated Customer Database and Portal | 2016 | |
| 24 | Implement a Business Intelligence (BI) Tool | 2016 | |
| 25 | Replace VoIP Telephone System | 2016 | |
| 26 | Implement Virtual Desktops and Enhanced VPN Solution | 2016 | |
| 27 | Modernize Fare Collection System at SMART | 2016 | |
| 28 | Consider Implementing Automated Meter Reading (AMI) Infrastructure | 2016 | |
| 29 | Continue Standardizing IT Environment | 2016 | Ongoing |
| 30 | Establish Periodic IT Skill Gap Review Process | 2016 | Ongoing |
| 31 | Continue Enhancing Audio/Video and WilsonvilleTV Infrastructure | 2016 | Ongoing |
| 32 | Implement Municipal Fiber Program | 2016 | Ongoing |
| 33 | Telemetry Upgrade | 2017 | Retired 2018 |
| 34 | Office/OS Upgrade | 2017 | 2018 |
| 35 | Fuel Management Software | 2017 | |
| 36 | Implement IT Auditing and Security Solutions | 2017 | 2018 |
| 37 | Contacts Database | 2018 | |
| 38 | Legal Case Files Software Solution | 2019 | |
| 39 | Community Engagement | 2019 | |

## Short Term Project Recommendations

### 1. Streamline IT Procurement Process

A rolling 5 year IT Strategic Plan would incorporate an annual update with reprioritization of the IT Projects based on input from the City Manager and Executive Team. Technology projects seeking to be implemented outside the strategic planning process would come to the IT Department for vetting and procurement assistance.

**Previous Updates**

In previous years, IT staff worked in conjunction with Legal department staff to formalize the purchasing process for IT related purchasing.  IT related purchasing will be incorporated into the new procurement manual being developed by Legal department.

**2019 Update**

Legal is continuing to work on the procurement manual.

### 5. Implement an Enterprise wide Integrated Event, Facility Booking and Volunteer Management Systems

Implementation of this recommendation will ensure that the City has user-friendly enterprise event registration, facility booking and volunteer management systems, which are integrated with the financial ERP system and Citizen database and portal. The new integrated solution automates all event management processes and manages payment with minimal manual intervention and integrates with a single sign-on customer portal and backend single payment/merchant account processor.

**Previous Updates**

In previous years, this recommendation was pushed to the medium term from the short to allow the recently hired Parks & Recreation Director time to familiarize with the software program.  Interviews with current staff show that they would like a solution that is a one-stop shop that is user friendly and takes payments for citizens, but also provides internal staff tools to more easily plan and accommodate for City wide events.

**2019 Update**

It was determined that the volunteer management portion would need to be separate from the Event and Facility Booking System.  IT staff will look to further expand the volunteer system the library currently uses to city wide use during 2019.  Research will continue to find an enterprise wide integrated events and facility booking solution.

## 8. Implement Scheduling Software at SMART

The City uses an automated run-cutting process to improve efficiency and accuracy of its fixed route transit operations. In conjunction with the newly implemented routing and Computer Aided Dispatch (CAD) and Automated Vehicle Location (AVL) systems, a run cutting software will greatly reduce manual processes.

This application is critical due to the upcoming retirement of the Transit Operations Manager, the only staff person trained in run cutting. Staff currently perform this process manually, which involves a skillset that is no longer trained and rarely found.

Supports Council Goal 9 – Multi-Modal Transportation Network

**Previous Updates**
The Transit department decided to extend this recommendation another year to look for either a run cutting program or, more beneficial, a route and planning software application.  The Transit department researched potential route and planning software solutions.

**2019 Update**
Changed the project name to "Implement Scheduling Software at SMART" from "Implement Run Cutting System at SMART" to better reflect the software needed.  Project will be moved into the Short term because of potential state funding for this type of software.

## 9. Develop Disaster Recovery Plan

The City uses a geographically dispersed location to house its mirror site.
The City continues to use current practice of regular data backup and application/database redundancy to provide business continuity. A formal disaster recovery plan is completed and annual testing implemented. The City implements fault tolerant, duplicate internet connections for enhanced business continuity.

**Previous Updates**
In previous years, IT staff researched and evaluated several backup and recovery solutions.  It was determined that the City did not have the appropriate infrastructure for an entirely cloud based backup solution. In 2018, the City purchased a backup software called Veeam that has the ability for both on premise and cloud backups.

**2019 Update**
Veeam backup software will be implemented, which will provide the infrastructure for the City's data disaster recovery plan.

## 12. Munis - Financial ERP System Implementation

An Enterprise Resource Planning (ERP) system is used as a single repository for all information regarding the city's business operations. The ERP system provides seamless access to all relevant users based on roles and responsibilities to track preset operational metrics real-time.

The ERP system automates common business processes such as accounts receivable, accounts payable, budgeting etc. to improve efficiency and is integrated with other enterprise systems to have relevant data across departments (HR, Payroll, Inventory control, Asset Management, Utility Billing, etc.) The ERP system is accessible remotely (desktop and mobile) for appropriate users.

**Previous Updates**

IT Manager will serve as the project manager. Select staff have participated in demonstrations of potential new systems.

Started the needs assessment in November of 2017 with an anticipated completion in April of 2018. This assessment will provide direction in selecting a new ERP system. If an integrated system is selected, projects #12 and #14 will be combined.

**2019 Update**

In 2018, Tyler's Munis was selected to replace the City's current financial system. Contract negotiations are underway, and the formation of a steering committee will occur to aid with implementation. It's anticipated that the permitting system will be replaced prior to the financial system.

Changed the project name to "Munis - Financial ERP System Implementation" from "Implement New Financial ERP System (Including Utility Billing and HRIS)" to better reflect the software selected.

## 14. EnerGov - Permitting ERP System Implementation

The City uses a Comprehensive Land Management system that streamlines all actions based on parcels including permits, inspections, investigations, reviews, zoning, project plans, code enforcement, etc. The land management system is built on a GIS platform so that any changes to the property information in the City's GIS system are automatically up to date in the land management system. This system is also integrated with the Financial ERP and Customer Database to provide a single view of the customer and track code conformance over a period of time.

The land management system is mobile enabled to allow field workers to compile inspection reports remotely, including a template based document generation system to speed completion of inspection reports in the field.

 The land management system utilizes an automated workflow to route items between staff both within and across departments for assignment, review, notification and approval. It also includes timers and ticklers to keep projects flowing and ensure that all appropriate items are tracked, notified on, and completed – including long term land use actions, agreements, and conditions.

Finally, the land management system includes a modern web interface that provides customers with a fast and easy way to schedule inspections and pay for permits online. The web interface integrates with the City's customer portal and single merchant account for payment processing and customer service.

**Previous Updates**

The IT Manager along with the Building Official will lead this project.  Select staff have participated in demonstrations of potential new systems.  Depending on the outcome of the needs assessment this may be a part of the ERP System.

Started the needs assessment in November of 2017 with an anticipated completion in April of 2018.  This assessment will provide direction in selecting a new ERP system.  If an integrated system is selected, projects #12 and #14 will be combined.

**2019 Update**

In 2018, Tyler's EnerGov was selected to replace the City's current permitting system.  Contract negotiations are underway, and the formation of a steering committee will occur to aid with implementation.  It's anticipated that the permitting system will be replaced prior to the financial system.

Changed the project name to "EnerGov - Permitting ERP System Implementation" from "Implement Integrated Land Management System" to better reflect the software selected.

## 15. Promote Use of GIS as an Organizational Priority

The city has developed a robust database of GIS data for major assets, land use and accompanying attributes and provides three interfaces (internal and external version of Wilsonville Maps and internal use of Arc view) to access the GIS data. The city also separately maintains a different database with similar information for use with AutoCAD.

A single, authoritative, GIS database replaces the existing multiple databases and new enterprise permitting and utility billing applications fully integrate with GIS for parcel and addressing information – without manual processing. New web based self-service GIS tools built on current technology offer faster performance, greater flexibility, and enhanced visual appeal, which leads to GIS staff spending more time on GIS infrastructure, data updates, and training and less time making maps.

**Previous Updates**

IT and GIS are working in conjunction with Engineering staff to upgrade software and hardware to make more efficient use of data.

Development of new self service tools was approved by the budget committee in FY17-18.  These tools and the associated GIS website refresh was put on hold until a new ERP software package was selected and the City website redesign was completed.

**2019 Update**

GeoCortex was selected to improve the GIS self service web tools.  Completion of this project is anticipated to occur in 2019.

## 22. Implement Integrated Security Access System

The IT department streamlines the key-card access management process to allow centralized administration and oversight of physical access to all facilities and secured areas. Security systems are managed as part of remote access and control systems, building on the City's Internet of Things (IoT) infrastructure.

**Previous Updates**

The current system is almost at maximum capacity.  IT Manager and Facilities Manager will discuss how to move forward and will be looking to consolidate into one database.

A budget add package will be presented to the budget committee for FY 18-19 that will perform a City wide audit of security considerations.  Card access will be one of the many items evaluated.  The report that is created by that audit will provide a direction for card access, security cameras and many other items.

**2019 Update**

A facility security audit will be performed early in 2019.  The results of this audit will help determine a priority list of facility security issues to address.

## 25. Replace VoIP Telephone System

The City uses a user -friendly Voice over Internet Protocol (VoIP) based unified communication system with detailed reporting capability. The City also provides a user-friendly, robust IVR system that is integrated with different enterprise systems (such as financial ERP, CRM, Asset Management, Utility Billing, Permitting, etc.).

**Previous Updates**

The City has been setting aside funds over the past few years for a new phone system.  The current plan is to evaluate, select, and implement a phone system in FY18-19.

A budget add package for FY18-19 was approved by the budget committee.  IT conducted a survey to develop a list of needs for the new phone system.  Using that criteria, a Request for Proposal was created.

**2019 Update**

Currently the City is in the contracting phase for a new phone system, with implementation to occur in 2019.

## 37. Contacts Database

The need for a centralized contact database that contains Wilsonville area contact information to be used by many departments for outreach and mailings.  Currently there are many separate lists with potentially out-of-date contact information.  This database will need to have a point staff person to maintain and keep current.

**Previous Updates**
This recommendation was added in 2018.

**2019 Update**
Extensive research was done to narrow a solution down that will be both easy to use, offer the most features, while still keeping within a reasonable budget.  Further meetings to discuss in details about needed fields, and maintenance of the database will be occurring in early 2019.  Implementation to occur in FY19-20 pending budget approval.

## 37. Legal Case Files Software Solution

The need for an easy to access and manage legal case files solution was addressed in 2018.  The software solution will provide all legal staff a centralized database of information for efficient retrieval of electronic files, the ability to add notes, organize emails, and other necessary functions.

**2019 Update**
This project was added to the IT Strategic Plan in 2019.  An add-package was submitted for FY19-20.  If approved by the Budget Committee, implementation would occur in FY19-20.

## 39. Community Engagement

The need for a community engagement platform was recognized in 2018.  An online platform where citizens can voice their feedback on a wide range of city projects and topics, as well as, providing a central place to do so.  Staff would have access to real-time data for analysis and reporting.

**2019 Update**
The City is currently researching tools to provide an online website project space to facilitate citizen engagement.  This tool would be used by in-house staff, and eliminate the creation of project websites by consultants.

## Medium Term Project Recommendations

### 11. Use Cartegraph as an Enterprise Asset Management System

An Enterprise Asset Management (EAM) system is used as a single repository for all asset related data (purchase date, useful life, depreciation, work performed, etc.). This system, in coordination with the GIS database provides extensive asset management information.

Relevant departments that maintain assets record all activities on assets through work orders generated in this system.

ERP system is seamlessly integrated with the Enterprise Asset Management System to track process efficiency and asset related reporting.

The EAM is mobile enabled to allow field workers to receive, complete and track work orders seamlessly. Work order information submitted in the field is updated in real time with the EAM**.**

The EAM is used in an inventory management capacity (parts attached to relevant work orders, reorder points, etc.) and real time information is maintained on inventory utilized for each work order and for the maintenance of each asset.

**Previous Updates**

Some major backend infrastructure upgrades occurred in 2017 to allow for the most up-to-date software to be utilized. Parks has been fully implemented. The formation of a group of department champions is needed to help facilitate further use and provide additional support.

**2019 Update**

The City is investigating moving Cartegraph to the Cloud to improve support and maintenance of the software. To facilitate more accurate and timely data, current workflows are being analyzed to streamline the process of entering assets into the system.

### 20. Implement Integrated Time Tracking and Payroll System

Time tracking software is used by all employees of the City to report time spent on defined and undefined activities at regular intervals. Time tracking software keeps track of the time worked by individual employees. The ERP system automatically reconciles and balances benefits accounts.

The time tracking system is integrated with the Human Resource Management Information System (HRIS) and ERP system to automate the payroll process.

**Previous Updates**

Ideally, this will be integrated with the new ERP system. If it does not have a viable option, the City will look at a third party software that will integrate with the selected ERP system.

**2019 Update**

It was determined that this project should be moved to the medium term to align with the Munis Financial ERP System Implementation. The City will be investigating both the Munis and Executime timesheet solutions.

## 27. Modernize Fare Collection System at SMART

The City's Finance Department receives online pass payment notifications via e-mail and physically mail the paper passes to customers. They also receive the fare boxes from SMART daily, and two Finance staff members manually empty, count, and track the money from the boxes. The percentage of transit revenue from fares is low and the processing and accounting time for the fare collection process is high.

The City features automated kiosks at the transit center and major bus stops to sell monthly passes. The City also provides a cashless magnetic card based ticketing and/or mobile app based system for riders.

**Previous Updates**
The Transit department is looking at feasible options for eFares or eTicketing.  IT will assist with the technical components of the project.

**2019 Update**
It was determined that this project should be moved to the medium term because SMART is part of a large group, led by Clackamas County, that is conducting a study to see what options are available.

## 35. Fuel Management Software

A new Fuel Management system will significantly help the Fleet Manager and Finance department to get accurate consumption and costs associated with fueling the City vehicles and buses.

**Previous Update**
The fleet manager is interested in finding a new solution to the current ineffective fuel management system.

**2019 Update**
Due to the newly funded electric buses for SMART, the fleet manager does not have the capacity to address this until next year.

## Long Term Project Recommendations

| 19. Implement Project Management System |
|---|
| The City uses a standard process of documenting and managing projects across all departments of the city. Relevant departments use standard project management software to proactively track and manage the budget and schedule of projects.<br><br>The data in project management software is in sync with time tracking system to accurately measure variances. Data in project management software is kept updated and historical data is used to improve project planning continuously. |
| **Previous Updates**<br>Moved the timeline for this recommendation from the medium to the long term to allocate resources for more urgent projects. |
| **2019 Update**<br>The upcoming ERP upgrade system will allow better management of projects, and future changes to the network file structure will help facilitate sharing of project files among all departments. |

| 23. Implement Integrated Customer Database and Portal |
|---|
| The city should use a comprehensive customer database to serve as the single repository for all customer information. The database should be integrated with Land Management system, and the City should capture information about customers at different points of interaction, such as registration for classes or events, to build a robust database.<br><br>The city should use the information in the database to direct multi-channel communications to increase access to information and services, improve opportunities for engagement and offer members of the community a choice in how they receive information from the City.<br><br>Additionally, a single Customer Portal, integrated with the City's web site should allow the customer to log in and access various City services and make payments and conduct transactions seamlessly. |
| **Previous Updates**<br>This recommendation will likely be incorporated into the new ERP system. |
| **2019 Update**<br>The Tyler ERP system selected, offers a customer service portal for its products.  Once the ERP has been implemented, the City will investigate further. |

## 24. Implement a Business Intelligence (BI) Tool

The City uses a robust Business Intelligence (BI) tool to provide historical, current, and predictive views of business operations enabling users to analyze data from different perspectives to make better business decisions. The BI solution provides common functions such as reporting, analytics, data mining, business performance management and benchmarking. The BI solution also provides role-based access to staff members to visualize operational data in real time and enables decision-making based on multi-dimensional data. It should enable the city to optimize resource usage by effective use of predictive analytics.

**Previous Updates**
The new ERP system selected for the City will help define what data is or is not available to view. That will allow the City to select the correct tool for the information available.

**2019 Update**
A Business Intelligence tool was recently purchased by Tyler, the parent company of Munis, which could lead to an integration in the future. However, it is critical that the Munis Financial ERP System be implemented first.

## 26. Implement Virtual Desktops and Enhanced VPN Solution

The City expands its virtual desktop infrastructure to all standard desktop configurations for its staff while providing sufficient computing power as required by staff members.

Virtual desktop infrastructure enables more robust remote access functionality, allowing the City to expand its remote access functionality and policies.

**Previous Updates**
IT staff will consider this recommendation as improvements in the City network infrastructure occur and make this improvement more cost effective.

**2019 Update**
IT staff will begin researching this near the end of the ERP software implementation.

## 28. Consider Implementing Automated Meter Infrastructure (AMI)

An Automated Meter Infrastructure (AMI) may allow the City to collect meter readings for its 5,000 utility billing accounts automatically, thereby eliminating the current manual, contracted process.

It can provide utility billing staff with real time water usage and meter reads to eliminate dispatching crews to perform emergency and one-time, customer requested reads. It can also provide real time usage trends to assist in rapid leak detection. Detecting leaks conserves water and can save both the City and the customer money and frustration.

| 28. Consider Implementing Automated Meter Infrastructure (AMI) |
| --- |
| **Previous Updates**<br>Public Works is investigating creating an Automated Meter Infrastructure (AMI), previously referred to as Automated Meter Reading (AMR), that could work with water meters and streetlights.  IT staff are investigating to see if there is an AMI solution that will integrate with the potential ERP solution.  Overall costs of that project will keep this recommendation in the long term category at this time. |
| **2019 Update**<br>Public Works has developed a 5 year plan for AMI.  A 50 light pilot project has been scheduled for 2019 with PGE. |

## Ongoing Project Recommendations

### 10. Develop IT Policies and Procedures

Approaches to computer usage, remote access, internet access, IT equipment procurement, and many other activities should be standardized and communicated throughout the City.  Policies should be defined to establish Standard Operating Procedures (SOP) that are uniform and to establish the foundation for enforcement of these policies.  Failure to maintain relevant policies and procedures places the City in a position of vulnerability as it relates to enforcement and expenditures on inappropriate use of IT infrastructure.

IT develops formal policies in place of informal policies now utilized in the areas of mobile device management, IT equipment standards, remote access, physical access (key cards), etc.

The City continues to use Mass360 to manage policy on mobile devices but augments Active Directory with a more comprehensive auditing and permissioning tool.

**Previous Updates**

In 2018, this was moved to the ongoing timeline, as the IT Manager will continue to work with the Human Resources Manager to develop policies in this changing environment.

**2019 Update**

IT Manager will work with Human Resources Manager to develop formal IT polices.

### 13. Implement Laserfiche as City Wide Electronic Document Management System

The City uses Laserfiche for its document management needs along with facility for electronic review, update and approval of documents through workflows. The document management tool stores metadata about documents as well as audit trail of activities on the documents to enable easy search and retrieval operation.

City uses web based tools for accessing documents and picture files that are appropriately tagged for easy retrieval.

**Previous Updates**

Moved this recommendation from the medium term on the timeline to ongoing.  Completed implementation of the Leave Request form and Municipal Court records in 2017.

IT staff and the City Recorder are working together to form a Laserfiche Action Plan to provide a road map for future records storage of both digital files and those that need to be scanned and made digital to free up physical space.  This plan will outline the phases and resources needed to move forward with the implementation.

**2019 Update**

The Laserfiche Action Plan was presented to the City Manager in January 2019.  It outlines the implementation plan for the next 3 years, and the resources required for completion.

## 29. Continue Standardizing IT Environment

Continue current level of standardization of IT Environment and focus future efforts on standardization of business enterprise software systems. Wherever possible, data duplication should be eliminated across the organization through consolidation and integration of overlapping systems and system functions.

**Previous Updates**

IT is investigating opportunities to standardize client databases and other processes in the replacement of the ERP system.  Greater efficiencies between departments should be achieved.

**2019 Update**

IT is continuing to investigate opportunities to standardize client databases with the ERP system. Network equipment continues to be replaced and standardized each year.

## 30. Establish Periodic IT Skill Gap Review Process

IT skill gap management process is developed. Cross-functional training is provided among IT personnel either through formal or through informal channels to improve the capacity of the team.

Effective documented plan is created to hire and retain IT support personnel. Additionally, effective succession plan should be developed along with creation of a standard operating procedure for each role.

**Previous Updates**

FY16-17 brought a lot of change to the IT department.  An IT Assistant was hired at the end of 2016 and a replacement Network Administrator was hired in the first part of FY17-18.  The IT Manager will work with HR to hire and retain personnel and start the creation of the succession planning and standard operating procedures for each role.

**2019 Update**

Cross-functional training has been necessary for new staff to learn their roles and procedures. Additional funds have been requested to increase the training budget for future training needs.

## 31. Continue Enhancing Audio/Video and WilsonvilleTV Infrastructure

Clarified roles surrounding the AV control room support removes staff confusion and a rolling 5-year replacement/enhancement plan for AV resources is completed, vetted with stakeholders and put in place.

All major City facilities have video conferencing capabilities in their main conference room areas, as well as AppleTV functionality for interfacing with staff iPads and iPhones.

**Previous Updates**

The Library's Oak Room and the Public Works conference room AV capabilities were upgraded in FY16-17.  HD cameras and new LED lighting for the Council Chambers are planned for FY17-18.  The City also entered into a partnership with Wilsonville High School to create content for the Wilsonville Government channel in exchange for camera and video editing equipment.

HD cameras and improvements in camera switching hardware were completed in 2018.

**2019 Update**

In 2018, the City began streaming City Council and Planning Commission meetings on YouTube.  This provides better video playback quality and is easier for citizens to find on the web.

## 32. Implement Municipal Fiber Program

Depending on the recommendations set forth in the adopted Fiber Business Plan, the fiber program has the potential to provide significant positive economic development benefits to the City, enhance the competition, reduce costs, improve telecommunications and internet services for the Wilsonville business community, and potentially even offer high-speed internet access at reduced rates to Wilsonville residents.

At the least, continued development of the fiber asset for City purposes will reduce long term telecommunications costs for the organization, enable enhanced connectivity and functionality in intelligent transportation systems throughout town, provide fast, reliable connectivity for telemetry monitoring of critical City utility infrastructure, and offer interconnection for data and service sharing between the City and other local government agencies.

**Previous Updates**

The City completed a Fiber Business plan in 2017 which will help inform the City Council on decisions regarding fiber investment.

IT is working with Engineering to install conduit in projects that are currently under construction. Several telecommunication companies have contacted the City interested in possibly partnering opportunities on fiber construction.  Projects to cross I5 at Boeckman and crossing the Willamette River to reach Charbonneau are under consideration.

**2019 Update**

The City is continuing to build out its fiber infrastructure.

## Completed Recommendations

### 4. Hire one (1) full-time Helpdesk Support Staff (IT Assistant)

Hiring an IT Assistant will provide the City with staff dedicated to supporting users with services such as desktop, email and printer related troubleshooting and basic training. This position would also maintain an inventory of IT hardware and software across the city and rollout new computers/devices.
A full-time IT Assistant will allow experienced IT resources to perform higher level, strategic tasks. Currently, entry-level helpdesk tasks are addressed ad-hoc by existing staff, negatively impacting higher value enterprise project and support efforts.

**2017 Update**
Hired an Information Systems Assistant I in December 2016.

### 3. Develop Fiber Business Plan

City fiber asset use based on results of the fiber business plan currently underway.

**2017 Update**
IT Manager is currently working with a consultant and has completed the process of information gathering through interviews with local businesses and staff, and online through surveys to obtain feedback from the public.

**2018 Update**
Project completed in 2017.  Refer to Project #32 – Implement Municipal Fiber Program for ongoing fiber plans.

### 7. Upgrade Exchange - Evaluate Cloud Based Email Alternative

A self-hosted Microsoft Exchange application is currently used for the City's email system. The current Exchange version is reaching end of life and will need to be upgraded to continue to provide a functional and secure e-mail system.

The City does not have an archiving tool, other than the limited built-in Exchange tool, which leads to user mailbox sizes growing rapidly and frustration with mailbox size limits that have been implemented to help staff better comply with State mandated records management regulations.

Additionally, email attachment size restrictions (15 MB) create issues when sending large files. These physical limitations can be addressed by moving to a cloud-based exchange system, but a cloud-based system will not address the policy and compliance issues.

## 7. Upgrade Exchange - Evaluate Cloud Based Email Alternative

**2017 Update**
The determination was made to keep the self-hosted Exchange solution in place, however it will be upgraded to the latest version in the Summer of 2017.
Upon approval from the budget committee, an email archiving solution will be implemented in the future.

**2018 Update**
Exchange Server 2016 was implemented in the summer of 2017.

## 34. Office/Operating System Upgrade

Microsoft Office and the Windows Operating System are the most used software applications by all staff, therefore this project will impact everyone's day to day work. IT staff will train and educated staff on the new software thus minimizing the interruption this will cause.

**2017 Update**
IT staff have tentatively planned this project to occur in the Summer of 2017.

**2018 Update**
Just over 150 computers were upgraded from Windows 7 to Windows 10 and Office 2010 to Office 2016. The project was completed in early 2018.

## 33. Telemetry Upgrade

Updating and standardizing the Telemetry software will modernize the system and make it much easier and cost effective to maintain in the future.

**Previous Updates**
The Engineering Department has started working with a vendor to create the specifications required for the Telemetry system.

**2018 Update**
This project will be retired from this list since Engineering has taken the lead on the project. IT will continue to assist in this project and help integrate it into the City's network as necessary.

## 2. Streamline IT Funding

Continue current IT specific infrastructure funding and charge-back process for support. Enterprise applications replacement should have a centralized reserve fund overseen by IT but funded proportionately by the various stakeholder departments.

## 2. Streamline IT Funding

**Previous Updates**

IT Manager will oversee funding for IT specific projects through CIP project budgeting.

CIP budgeting is identifying IT related projects as they seek funding. The IT Manager is also working with the Legal department to make sure that IT related projects are identified early in the procurement process to make sure that there is appropriate oversight.

**2019 Update**

This project is retired for 2019. IT will continue to work with departments. The EPT will provide oversight, including IT as an integral component of the budget process.

## 6. Combine City Web Sites and Social Media Accounts

The City consolidates all individual websites under its parent domain and enforces a thematic framework to improve branding. The websites provide a common self-service framework to automate most common services to citizens and integrate with the ERP, Land management and CRM systems to provide real time automated workflow to users.

The City investigates a social media consolidation tool to manage accounts and publish content to multiple channels in an efficient manner. The City allows two-way communication with citizens on its social media accounts and allows for comment on council meetings online. The City tracks, analyzes, reports and makes communication decisions (web site, social media, etc.) based on web traffic analytics for its web site.

Formal policies are developed for content management and posting.

**Previous Updates**

IT staff is currently seeking out web design vendors in order to get costs for consolidating the sites and updating the design to match the new logo. Administration department staff have developed a Social Media Policy and are actively participating in two way communications with citizens.

Through a RFP process, the City selected *Aha! Consulting* in the Fall of 2017 to design, consolidate, and host the websites. A steering committee, consisting of key staff members from each department that is represented by the websites, was formed to help guide the project along. The City anticipates completion in Spring of 2018.

**2019 Update**

Project complete and new website launched in July 2018.

## 18. Implement Email Archiving and E-Discovery Solution

The installation of an archiving system will provide a means for migrating email and PST files. In addition, email archiving will reduce the server requirements of the current system. Once policies are established for mailboxes, emails and other Microsoft Outlook (or cloud based email) data will automatically be archived on a separate server.

An additional consideration of archiving is the ability to provide legal discovery (eDiscovery module), which will enable faster search and retrieval of emails, calendar items, contact list, etc. across the organization for legal discovery purposes. Some advanced systems can archive and simultaneously search across multiple social media accounts as well.

**Previous Updates**

IT staff have participated in demonstrations from vendors who provide this service. A solution has been identified that is considerably cheaper than the initial estimate. Upon budget committee approval this project will occur in the FY17-18.

After assessing the organizational needs, IT has decided to implement a cloud based solution called Mimecast to facilitate centralized archiving and provided more efficient tools for e-discovery. Implementation began in early 2018, with an anticipated completion in Spring of 2018.

**2019 Update**

This project is complete. Implementation and training occurred in 2018.


## 36. Implement IT Auditing and Security Solutions

Adding new software to increase Auditing and Security capabilities will help keep the City protected against emerging threats. It will also allow a collaborative environment for the departments to work in.

**Previous Updates**

Several add packages have been submitted that will address areas identified such as new email antivirus protection and auditing software. If approved by the budget committee, they will be implemented in FY 17-18.

The IT department will be evaluating several tools that will assist with auditing and security. A software package is currently being implemented that will filter, allow better auditing and provide an extra layer of security for email. The IT department will also be evaluating software that will provide the same functionality for the City's network structure.

**2019 Update**

This project was completed in 2018 with the implementation of a software solution called Varonis.

## 16. Combine Payment Processing Systems and Merchant Accounts

The payment process for different websites are streamlined and consolidated to achieve cost efficiency, better user interface and better integration with other enterprise systems (such as financial ERP, Land Management, CRM, etc.).

**Previous Updates**
Finance is currently doing an audit of the City's merchant accounts. The goal would be to set standards for future contracts involving payment processing.

IT has been working with Finance to help shape the standards for payment processing. The current website redesign project that is underway will utilize these standards.

**2019 Update**
With the audit, all merchant accounts were identified and it was determined that the City could not reduce the number of accounts further without significant cost and change in current payment processing systems. This project is retired for 2019.

## 21. Implement a Collaboration System (Cloud Based?)

A cloud based collaboration system, working in conjunction with a project management tool will allow City users to cut back on or eliminate sending emails back and forth with attachments, thus saving valuable on premise individual mailbox and email server space.

**Previous Updates**
Community Development is interested in utilizing a cloud based collaboration system but cautious of the City owning the data that is in this system. Further research is needed.

IT will work with the Legal department to develop contract language that allows the City to obtain data from a consultant or contractors cloud based collaboration system for long term retention.

**2019 Update**
The City implemented Mimecast which offers a large file send component that has proved to be extremely useful for staff to send large files back and forth with consultants. This project is complete.

## 17. Implement Enhanced Interactive Voice Response (IVR) Solution

An enhanced and integrated IVR solution allows the City to provide an option to the Citizens to communicate with the City via an automated system, obtain status information, make payments over the phone, etc. The City provides a user-friendly, robust IVR system that is integrated with different enterprise systems (such as financial ERP, CRM, Asset Management, Utility Billing, Permitting, etc.).

## 17. Implement Enhanced Interactive Voice Response (IVR) Solution

**Previous Updates**

Potential IVR replacements will be evaluated in the new ERP implementation projects (12 and 14).  IT will work in conjunction with the Building Official to find something that meets the City's requirements.

Potential IVR replacements will be evaluated in the new ERP system.  The Building department has decided to focus on web based alternatives for scheduling of permits and move away from an IVR system.  Utility Billing will be the primary user of a new IVR system moving forward.

**2019 Update**

With enhancements to the City's current Tyler IVR system in 2018, it now meets the need for the City. This project is retired for 2019.