2018-2023 Technology Roadmap

Engage ◆ Inform ◆ Empower

Introduction and Overview

The Information Technology Department is a centralized provider of service and support for virtually all business processes in City government. The more technology advances invested in and embraced by our residents, the greater the importance of keeping that technology working reliably. The use of emerging technology will create avenues that will make government more accessible and transparent to its residents. Because technology is an increasingly critical component of the infrastructure of City government, it must be reliable, resilient, well-managed and flexible to adapt to changing needs.

As with any core infrastructure, design, planning, investment and maintenance must routinely be completed. This document contains the City's vibrant Technology Roadmap which outlines five core technology goals and commitments to key technology initiatives that are needed to move the City towards its strategic vision.

The City continues to look at emerging technology needs and major trends that will face the organization in the upcoming years. This Roadmap was designed with the purpose of positioning the City to effectively meet its strategic technology challenges both physically and financially well into the future.

Technology is essential for good governance, enhanced customer service and operational efficiencies. Supporting a growing, diverse community with a current population of 23,000, our goals capture our need to continue to provide exceptional public services, while being a collaborative, innovative, technology-driven organization fueled by technology.

Transforming into a Smart City through vision and technology planning

to develop future services, securities, buildings, transportation, data integrations and education to meet community expectations

Technology Department Mission Statement

> City organizational and public needs drive technology development and priorities. The Technology Department develops the knowledge and resources to help all city departments solve business problems, serve citizens effectively and move the city's mission and vision forward.

Goals, Initiatives, Projects and Performance Measures

This Roadmap closes the gap between current and future technology needs. The City has identified five technology goals to focus its technology efforts on and investments in upcoming years:

1. **Improve Citizen Engagement and Customer Service**
2. **Enhance Infrastructure and Resources Through Innovation**
3. **Protect and Secure People, Systems and Data**
4. **Plan for People, Growth and Change**
5. **Mobilize the Workforce**

These goals align with the City's Strategic Plan and key initiatives identified within, including: developing community engagement and communications strategies, completing lean process improvements, enhancing tools and processes to improve communications, and developing the City's long-term technology vision through the Technology Roadmap's future developments summary.

Along with goals and initiatives, this Roadmap outlines a strategic and aggressive project schedule for all funded technology projects.   The project schedule identifies new technologies needed as well as upgrades to existing technologies.   Milestones have been established to guide expectations and deliverables and to communicate to all of the City's stakeholders where projects are and when completion should be expected.   A Future Development Plan has also been established to identify and prioritize long-term investments needs and funding strategies. This Roadmap will be updated yearly to ensure it remains current with the City's evolving technical environment.

Performance Measures create another form of measurement for the City's technology successes.   Areas to measure include improving citizen communications and information through an improved website and mobile app, improving customer service through enhanced online services, and advancing the City's core technologies and resources through investment and innovation.

Goal 1: Improve Citizen Engagement and Customer Service

Provide open, transparent and relevant services and up-to-date information our customers are expecting

For citizen engagement to truly work, government must create a comprehensive communications strategy -- that includes reaching out and broadcasting to citizens on a routine basis via email, SMS, social media, advertisements, door to door, at in-person events or hosting informational sessions.

Clear goals, objectives and measurements must be identified to track citizen engagement initiatives, and proper staffing and resources must be allocated to the initiative. Retaining a sense of fairness as to how resources are allocated across a city is also essential.

Maintain ability to respond quickly to changing public preference for technologies and how they use them to communicate and access information.

Initiative 1: Improve Online Services and Resources.

Initiative 2: Improve Services and Efficiencies – Enhance Lean Projects Using Technology and Innovation

Initiative 3: Create a City Communications Strategic Plan to improve community outreach, keeping our citizens informed and involved.

How will we accomplish this goal:

- **Strategic Plan:** Creating the City's Communications Strategic Plan.
- **Social Media and CamasConnect 24/7:** Continuing Mobile App development, branding and marketing to improve community outreach efforts. Establishing schedules and allocating staff resources to provide relevant and open two-way dialog with citizens -- Providing timely, interesting updates on what's happening throughout the City.
- **Website Development:** Using a service-centric approach in re-designing menus and content, while making our mobile site more user-friendly.
- **Online Resources:** keeping an eye on new technologies or tools to improve or expand upon how the City provides open information and services – Ex: Socrata Open Budget and Open Expenditures, Cemetery Online Plot Search, Citizen Relationship Management service requests, etc.
- **Free Public Access Wi-Fi:** All main City facilities will host free Wi-Fi for public use.
- **E-Commerce:** Focusing on delivering as many services as practical to allow citizens the ability to conduct city-related business from home, work or mobile devices, 24-hours a day, seven days a week, 365 days a year!
- **Citizen Survey Results:** Understanding and incorporating the results into action plans. Citizens want useful and timely information to be engaged in our community.
- **Re**-establish Community Ward meetings to embrace transparent, face-to-face, opportunities to engage our community with City government leaders.

Goal 2: Enhance Infrastructure and Resources through Innovation

Continue to grow as a Smart City - Provide operational efficiencies with new products and innovations while maintaining level of service expectations

An important element of the roadmap requires departments to research and plan for their future technology needs identifying long-range investment requirements and commitments to enhanced technologies. What will services look like in five years? What improvements will the City need to make to current applications, replacements or enhancements? What new services are on the horizon within our industry? It is important to plan for the services the citizens will be expecting, concentrating our staffing, training, and investments into the technical resources with the biggest potential service-delivery improvements.

How will we accomplish this goal:

Investing into Future Developments and System Upgrades. (See the City's Future Development List Attached)

- **Innovation:** Continued investment into new technologies requires long-term planning and ongoing research and review. Projects need to be vetted carefully for prioritization in funding and to practical timing for technology innovations and public offerings. (See the City's Future Development Projects Report included in the Management Reports attached)
- **Investment:** Investment in new technologies, along with re-investment and upgrades to existing systems needs to be managed to ensure City resources are used effectively, efficiently and ongoing enhancements are in alignment with service deliverables.
- **Funding:** Establishing a Technology Internal Service Fund with an equipment replacement strategy. The City should look for partnerships or case studies, grants and timely bonds marketed around Smart City transformations that citizens will support and fund – showing quick results and return on investments.
- **Growth:** Participate in planning and development of new facilities and re-investment of aging facilities and equipment.

Initiative 4: Create and maintain a long-term Applications Development and Replacement Plan.

Initiative 5: Create and Fund a Hardware Replacement Strategy to Support End-Users (Internal Fund)

Initiative 6: Upgrade and Maintain Aging Infrastructure

Initiative 7: Keep Technology Inventories Current and Manage Replacement Strategies

Goal 3: Protect and Secure People, Systems and Data

Provide a secure and reliable data center, protecting the integrity and reliability of core systems

Changes affecting data security are rapidly occurring as new updates process in the world of technology. Information is easier to access, online searches load faster, and mobile and web payment services are now simplified and common. The technology demands of our staff and citizens is ever-changing as they move towards the ability to do everything online—store documents, make payments, brainstorm ideas for expansion and growth—using remote servers and cloud-storing software.

This demand for instant access and connectivity also provides ample opportunities for hackers to breach our secured services and data. Requiring our users to continually change passwords, establishing dual authentication, managing an aggressive anti-virus enterprise and utilizing an array of other tools are only part of the solutions.

Creating a formal Cyber Security Plan was highly recommended by WCIA (Washington City Insurance Authority) as part of our cyber insurance binder. This committee will be educated on how the city's anti-virus, anti-malware and other filtering devices work to protect systems and data from breaches and trained on identifying security weaknesses/breaches and reporting them timely.

How will we accomplish this goal:

- **Cyber Security:** The City has established the organizational framework to develop and implement a comprehensive security and privacy plan. The Cyber Security Team consists of department representatives, whom meet regularly to discuss what's happening with the City's systems and confidential data securities. The purpose of the Committee is to inform and educate departments on the importance of maintaining high security standards and create a formal plan for identifying and reporting security risks or breaches.
- **Disaster Recovery:** The City also maintains a disaster recovery plan to protect its systems and data. How the city stores and accesses data has changed over the years and a formal, updated Disaster Recovery Plan will be completed in 2019. It will be important for departments to participate in the development of the plan and understand its importance to vital city data integrity. Testing the plan will also be an essential part of keeping the City's servers, applications, databases and data secured.

Initiative 8: Maintain an Active Cyber Security Team

Initiative 9: Develop a Formal Disaster Recovery Plan and Test Regularly

Initiative 10: Secure Facilities and People – Video Surveillance and Physical Access

- **Physical Security –** Physical secured access to facilities is as important to both data and people as other technology securities can provide. Adding securities to access doors (internal and external), adding or replacing camera's for video surveillance, panic alarms and other physical protections are another way to protect and secure the City's data and staff.

Goal 4: Plan for People, Growth and Change

Align the City's information technology resources with city strategic initiatives and community needs.

The City currently has 13 main facilities supported directly by the Information Technology Department. Core services supported include Administration and Finance, Police, Fire and EMS, Public Works and Operations, Library, Parks and Recreation, and Community Development.

The City currently has upwards of 200 Full-Time Equivalent employees supported by the Technology Department. As the City expands to the North Shore, future facilities, added employees and new services will affect the level of service and support provided by the Technology Department.

The City should use this growth opportunity to seek out partnerships throughout the community, developing shared digital tools and resources that foster Smart City technologies.

How will we accomplish this goal:

The City should continue to identify and address:

- **Staffing Levels**: Continue to align staffing levels and skill requirements to ensure effective customer service and proactive management of technology and information resources (both City and IT staff). The Technology Roadmap will help to identify staffing levels.
- **Training Needs**: Continued investment in employee training will result in an increased satisfaction by the citizens of the technical services the City provides and customers demand. Technology staff will also need continued investment in training to stay abreast of current and emerging technology trends.
- **Resource Needs:** What resources are needed and the timing of investment and delivery will be identified in the City's Technology Roadmap.   As new developments receive funding and projects progress, the resources needed to optimize employee performance and uses of these tools will come into play.   The technologies developed will drive technology services and support needed.
- **Partnerships:** Development activities throughout the community will present opportunities with Federal and State grants, other agencies, businesses and schools.

Initiative 11: Create and maintain a Five Year Technology Roadmap keeping in alignment with the City's Strategic Plan – and continue each year to re-evaluate City needs.

Initiative 12: Plan for newly incorporated and developed areas throughout the City - added facilities, more staff and new services supported.

Goal 5: Mobilize the Workforce

Inspire the transformation of our growing mobile workforce, by providing quality mobile resources that harness the benefits of new and improved services to the community.

How will the City capitalize on planned changes to its mobile workforce? What will our mobile work force look like in five years?   There are savings to be captured in re-organizing facilities, services and technologies used both internal and external to our employees' current home-base facility.

Technology has already shifted to provide useful, affordable and effective mobility:

- Increased personal productivity was mobility's initial benefit to organizations.
- Smart mobile devices, ubiquitous wireless connectivity and sophisticated apps enable work to be done from anywhere.
- Access to more intuitive software built for smartphones and tablets into daily operations provides efficiencies. This requires seeking solutions that focus on user experience in a mobile context (touch/swipe/ talk) that address explicit problems.
- Savings in facility costs as shared work areas are created throughout existing and new facilities, user licenses can be reduced, equipment can be shared in co-op areas, and travel to and from a user's home-base effectively is reduced or even eliminated.

There are also challenges to address and plan for:

- Some devices may have shorter lifespans, be less reliable or durable (iPads, Tablets), but also have cost benefits.
- New ongoing costs for wireless data plans are emerging which increase operational expenses.
- Keeping up with growing demands for mobile apps from staff requires research, review and technical support.
- Citizens that increasingly and more easily interact via mobile devices and open city governance will impact service needs and response efforts.

In any event, the benefits to operational efficiencies mean a mobility strategy will be essential to the City's future Technology Roadmap.

Cloud services, where the IT system can reside anywhere on the internet, also enables mobility, since mobility works best when people can access data anywhere they have internet access. Cloud services are changing how information technology is delivered and consumed.   Cloud is a general direction for

Initiative 13: Develop and Optimize Mobile Technologies - Provide the tools staff need to do their work, expanding options for where and how.

Initiative 14: Train End-Users on Enhanced Tools and Network Resources

Initiative 15: Work on Strategies to Support the City's Changing Workforce.

IT, but decisions on whether to move to a cloud service should always be done on a case-by-case basis, with decision criteria that includes cost benefit analysis, maturity of service, integration with other city systems and other long-term factors.

Mobility is not one major project, but many efforts that take advantage of mobile technologies and new services.

How will we accomplish this goal:

Changing needs for employees include the ability of workers in the field to access and update data, maps and documents; to collaborate effectively with co-workers and stakeholders; and expanding the ability to work "anywhere, anytime, with any device." Our technology has already shifted to provide useful, affordable and effective mobility to employees:

- **Tools:** Continue investing in mobile tools and applications - Office365 Pilot Project continues to be impactful for staff resources.
- **Remote Network Resources:** Additional investment and development in VPN security, services and remote access for secure, stable and reliable access to City resources are being made.
- **Vehicle Mobility:** Investing further in technologies for mobility in City vehicles, deployment of Smartphones for Public Works Crews to replace obsolete "flip" phones with the T-Mobile project, and acquiring Cloud-based/Mobile applications or services that can be accessed via the internet – enhancing both staff and citizen-facing resources.
- **Enhanced Wi-Fi:** Staff and Guest/Public Access Wi-Fi is now available at all core facilities supporting a strong mobile presence throughout the community. As the uses continue to grow, so will the need to upgrade, increase and expand these services.

Management Reports - Status Reports, Project Schedules and Future Developments

The following Management Reports have been created to track and monitor the ongoing progress of the City's Technology Roadmap. Each year the city's management team will review all technology priorities and identify needs and priorities of each department to present to Mayor and City Council for review and approval for budgeting.

Quarterly updates are made to the reports to keep the City's technology project schedule and milestones up-to-date. See the reports attached.