



City of Milpitas

Telecommunications Commission

Telecommunications Five Year Master Plan 2012-2017

(Updated April 2014)

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Introduction

In 1995 the City developed and adopted its first Telecommunications Master Plan. This initial plan was designed to act as a blueprint for the implementation of technology in the City over a five year period. Since the initial plan two subsequent five year plans were developed in 2002 and 2007. These plans have been the primary guidance used to implement and manage the City's technology portfolio. The 1995 plan included very specific technical recommendations and assessments of various technologies.

The later plans made recommendations that were not specific to particular technologies in order to take advantage of newer technologies that had evolved since the original plan. The progress of each five year plan has been reviewed at the mid point with a report being made to the City Council.

When appropriate, recommendations have been updated and added to reflect the current technological needs of the City. These plans have served as the basis for the City's annual operating and capital budgets for technology.

Recommendations

In reviewing the current state of technology in the City and general trends in the industry, the following recommendations are being made for the specific areas listed.

Milpitas Community Television (MCTV 26)

The City should continue the current policy of using a private non-profit corporation to manage and operate the Public Access Facility and channel.

This operational model allows for expanded fund raising activities, opportunities for grants and an independent governance body to deal with programming decisions and other issues.

Obtain additional capabilities for the Public Access Facility to include live mobile recording/broadcasting, webcasting, and additional channels.

These capabilities will expand the functionality of Public Access broadcasting by providing On Demand capability for City/MCTV programming as well as the creation of an archive of significant & historic events. New technologies such as satellite/IPTV should be explored to provide City news videos, live traffic feeds and broadcast of local special events to a wider audience than traditional cable television offers.

The commission will continue with upgrading its web streaming services and technologies.

Provide additional outreach and educational opportunities for the community to include seniors and teens.

As a non-profit organization, MCTV depends on volunteer support. Additional outreach will potentially provide a larger pool of volunteers. The active Senior and Teen programs of the City would be excellent candidates for targeted programming and potentially live broadcast of activities. These highly diverse populations would provide opportunities for expanded multi-lingual programming.

Telecommunications

The internal City phone system should be replaced and consideration given to new technologies such as Voice Over IP (VOIP).

The existing telephone system was installed in 1998 and is nearing the end of its useful life. Newer technologies can provide greater capabilities at a lower overall cost as the cost of maintaining dated equipment increases. **Completed April 2013.**

The upgrade to the City Hall audio visual equipment and conference rooms was completed in August 2012.

The City's should monitor its fiber/wireless communications networks and replace as necessary.

The City's existing fiber optic network was installed between 1998-1999 and has become the primary communications backbone for all city facilities and services including Public Safety. Over the past fourteen years this vital infrastructure has become degraded by repeated repairs and splicing. **Replaced fiber cable segments of the network in 2010 and mid-year 2012.**

Continue to monitor developments.

Study opportunities to greater utilize and potentially monetize the City's telecommunications infrastructure.

City is fortunate to have an extensive fiber optic and wireless broadband infrastructure. It is prudent to study how these resources may be greater utilized and potentially monetized by offering various services and multiple tiers' of service. Should the City pursue these opportunities, it should do so with the goal of becoming the premier local broadband service provider.

Review existing Service Level Agreements with vendor.

Public Safety Communications

The City should maintain its current Public Safety radio system while continuing their involvement in regional interoperability projects.

The City's current Public Safety radio system has been upgraded over the past five years and has become an extremely dependable and capable system. While newer technologies do exist, they are not yet to a point that would guarantee the same high level of reliability as the existing radio system. The City should monitor new developments in Public Safety communications and leverage its involvement in evolving regional efforts.

Already In-Use.

The City should research City-wide emergency notification system(s)

Via either regional or local efforts, an emergency notification system utilizing multiple technologies and distribution methods should be developed. The proliferation of personal communications devices provide numerous means of quickly disseminating critical information in emergency situations.

Explore the possible use of social media applications with existing notification media. Awaiting on Policy Development.

The City should continue its use of technology in the Emergency Operations Center (EOC) and periodically review new technologies for potential use.

Technology can be crucial to the management of emergency or disaster situations. The addition of large display screens, Smart Boards and wireless networking are examples of technology implemented in the EOC under previous master plans. As new technologies evolve they should be reviewed to determine if they may be of benefit in the EOC.

Continue to monitor developments and review as needed.

Applications

The City should explore new technologies to include expanded off-site data storage to reduce costs and improve reliability.

Recently the concept of “Cloud Computing” has become very prevalent in the computing industry. Under this model data is stored on a virtual cloud computer rather than a local physical server. This is done to reduce the acquisition and operation costs of data storage. The fact that data is no longer stored at the same physical location improves survivability during disasters. Cloud computing should be considered for non-sensitive data and applications storage to lower costs and improve survivability and disaster recovery.

Explore the usability of incorporating practical data and applications could be stored off-site via cloud computing or similar technologies to lower costs and improve survivability during disasters.

The City should expand its web presence and when possible, add additional capabilities and explore new means of service delivery.

The City has provided a great deal of information and many services such as utility bill payment, recreation class registration and online permitting via the Internet. Where practical, the City should look to providing additional services via the Internet and via new computing platforms such as Smart Phones and tablet computers.

The Commission should periodically review applications development.

At the direction of the City Council, the Commission recently reviewed various means to utilize technology to reduce costs and improve productivity. During this process the Commission received several very informative briefings on computer applications recently implemented and in development. The Commission felt that it could provide input on these efforts to better use technology to deliver services, improve efficiency and reduce costs. Additionally, information sharing with other agencies would ensure the City is abreast of the latest developments in public sector technology.

City Facilities & Infrastructure

The Commission should be tasked with reviewing the progress of the City Hall technology upgrade project.

The Commission acted in this role during the initial City Hall technology design and installation. Being one of the largest technology projects in several years, the Commission feels it could provide valuable guidance on this important project.

Item completed September 2012.

The City should review technologies for remote monitoring, control and security of key services and utilities.

Existing technology such as the City's communications network could be used to enhance security while improving efficiency. Multiple facilities could be monitored simultaneous from a single location. Recent upgrades have now provided the capability to display real-time traffic video of key intersections via the Internet. This has been an outstanding recommendation from previous master plans. **Explore the use of City Web Cameras for traffic monitoring including highways if possible.**

The City should develop mechanisms to fund the on-going replacement of technology and research ways to generate revenue to fund infrastructure projects.

As the replacement of the first generation of City Hall of technology is now underway, the issue of funding for future equipment replacements has been raised. How will the next City Hall technology upgrade be funded in the future? The City should expand its current equipment replacement model to include all technology items. **Continue discussion and seeking input from other municipalities.**

Emerging technologies such as photo voltaic/solar should be monitored for potential use.

As new power generation technologies evolve they should be evaluated for potential use. Many opportunities exist to power City technology assets with alternative and renewable energy sources.

Conclusion

The above recommendations are to serve as the basis for the next five year plan for the period 2012-2017. During this period, it is suggested that the Telecommunications Commission review the status of this new plan in the 2014-2015 time frame and provide a report to the City Council. Given the rapid pace of development, any technology plan needs to be periodically reviewed and updated to take advantage of changing technology. Again, these recommendations are intended to provide high level direction, not specific guidance on a particular technology implementation.

Further, the Commission recommends that they develop the next full five year plan by late 2016 prior to the FY 2017/2018 budget cycle. This will continue the cycle of development of a five year plan, followed by a mid point review. The Commission will maintain its historical practice of reviewing and approving specific technology projects in support of the master plan recommendations.

Implementation of technology in the City since the initial 1995 technology plan has been nothing short of spectacular. Since that time the City has installed an integrated fiber optic network, designed and built a state of the art City Hall, installed mobile computers for public safety and installed a municipal wireless network. The Telecommunications Commission is proud to have provided guidance on these accomplishments and appreciates the trust and support provided by the City Council.