

Tips for Wi-Fi Mesh Networking in Municipalities



A successful municipal deployment depends on many factors. When considering such a deployment Xicom suggests starting with the following items.

Extend Coverage and Reach: An unobstructed Wi-Fi signal generally extends at most the area of a football field, so building out an entire city with hills, trees, and buildings takes a lot of work. Detailed site surveying and planning should precede any installation to meet the objectives of a particular Wi-Fi deployment.

For Indoor Coverage, Extra Planning is Required: Reliable indoor coverage is not guaranteed by an outdoor deployment. To extend coverage in indoors, cities should carefully consider what areas they wish to cover and plan accordingly. Since Wi-Fi is already fairly ubiquitous in homes, some cities will opt only to extend indoor coverage in public buildings, in under-served neighborhoods, or over a small geographic footprint.

Deploy Installation in Manageable Phases: A large-scale deployment can be overwhelming if tackled all at once. Designate and build out a small test perimeter where adjustments can be made and successes replicated throughout the whole city. Note that a successful deployment plan used in one neighborhood is not a "one-size-fits-all" solution, as key characteristics of an area may vary due to topography, building density, and number of users.

Make the Most From What is Available: Identify appropriate backhaul locations before laying out the wireless infrastructure and secure right-of-way for the equipment early in the process.

Plan for Long-Term Compatibility: With upcoming advances in technology, municipalities need to work with vendors to understand how each system will evolve to support new Wi-Fi consumer devices such as cellular phones with Wi-Fi capability, ultra-mobile PCs, gaming devices, and more.

Don't Assume it will be Free for Users: Municipalities and private partners with a stake in the program decide who pays for Wi-Fi deployments. Some cities have opted to extend free service as a public benefit, some collect a usage fee, and some markets such as San Francisco have announced a hybrid model. Advertisement services and sponsored networks can help defray costs of service.

Get the Most Out of Your Network: Municipal networks can be optimized to provide a wide range of services, such as public-access Wi-Fi in parks, convention centers and other locations, or connecting city workers and systems on the go (waste collection, meter reading, etc.). Municipal networks can also bridge the digital divide by delivering an Internet connection to schools, libraries and underserved residents. Each municipality should leverage their Wi-Fi network for the uses that suit their unique needs.

Link Technologies for Optimal Performance: Wi-Fi can be paired with a variety of other wireless technologies to ensure the best user experience. Mixed networks can extend Wi-Fi's reach and maximize performance and coverage. Some complimentary technologies for municipalities include: cellular for voice applications and WiMAX for infrastructure support and distance.

Ensure Equipment is Interoperable: A municipal deployment can be a large investment. Make sure users can connect and devices work together. As capacity needs expand and spectrum usage increases, additional devices may need to be added to the network in the future. Deploy only standards-based networking equipment.

Put Xicom's experience in large scale wireless mesh deployments to work for your city today. For more items to review when considering a municipal deployment and to discover a turn-key process for providing a future -ready network for your city now, contact Xicom Wireless today!